INDUSTRIAL EQUIPMENT NEWS

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The Original IEN — FOUNDED 1933

What's New IN EQUIPMENT, PARTS, MATERIALS

AFFILIATED WITH THOMAS REGISTER OF AMERICAN MANUFACTURERS

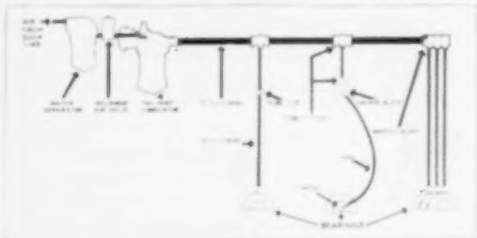
NOVEMBER-1950
VOL. 18 • NO. 11

Product Information for specifiers and buyers in all industries

(BREVITY—Identify by IEN-10395 if you write the maker)

LUBRICATING . . Pneumatic equipment delivers air-oil mist to bearings

Source: STEWART-WARNER CORP.
1828 Diversey Parkway, Chicago 14, Ill.



Alemite Oil Mist designates a new assembly of oil vaporizer, tube and hose lines and connection fittings to convert oil into a fine mist and carry it in a low-pressure air stream to the bearing surfaces on a machine. Air and oil enter the bearing, the oil being held as a mist or precipitated in fittings available for this purpose. The air assists in cooling and also sets up a light internal pressure that excludes entrance of foreign matter. Properly adjusted there is no drip. An air separator removes moisture from the shop air supply. A solenoid valve starts and stops the action in step with the operation of the machine. A remarkably small amount of oil is consumed.

The vaporizer holds a supply of oil and includes a pressure regulator and pressure gage in its assembly. A valve controls delivery of the oil for vaporizing and the outlet connection is made to a ½-in. main delivery line. Fittings in this line lead to rigid or flexible ¼-in. branch lines leading to the bearing points where terminal fittings deliver the oil to the bearings. Eight bearings including three on the crankshaft, four on the slides and one on the flywheel of a 50-ton Bliss press took ⅜ oz. of the company's No. 22 extreme-pressure oil in an 8-hr. day. Air pressure was 12 pounds. Ten bearings on a No. 1 Browne & Sharpe grinding machine took ⅛ oz. in an 8-hr. day using the same No. 22 oil and 8-lb. air.

The company has prepared an excellent engineering report in six mimeographed pages that covers the equipment and gives details on its operation, capacities and characteristics.

(BREVITY—Identify by IEN-10396 if you write the maker)

MOLYBDENUM . . Siliconized parts protected for high temperature duty

Source: FANSTEEL METALLURGICAL CORP.
2204 Sheridan Road, North Chicago, Ill.

Patent application has been filed for a new process the company has developed on application of a siliconized coating to parts made of molybdenum that are to operate in air or a combustion atmosphere at temperatures to 3,000 deg. F. The coating has structural strength, is resistant to thermal shock and is electrically conductive. It is not subject to attack by oxygen, carbon dioxide, carbon monoxide, nitrogen, sulphurous or hydrocarbon atmospheres.

Typical applications are in heating elements for electric furnaces, nozzles and jets for gas and oil burners, spark plugs and gaps for ignition, flame holders, mixers, thermocouple wells, gas sample tubes, probes, combustion chambers on gas turbine engines, crucibles for laboratory use. The coating is not recommended at high temperatures in contact with certain alloys, metals, molten glass, strong alkalis.

The company is prepared to coat tubing in diameters to 2 in. and length to 30 in., both inside and out. It can handle bar, rod, wire in lengths to 30 in. or in preformed coils and shapes not greater than 30 in. overall. It can coat cylinders, flats, shapes with maximum cross section of 6 in. and length of 8 inches. It will fabricate the molybdenum and coat it or will coat work pieces sent to it to be protected. Ask for Technical Bulletin 4.101.

BUY CHRISTMAS SEALS

Thanks to Christmas Seals, children today have a far better chance to escape TB than you did. But the disease still kills 40,000 people each year in this country. Your purchase of Christmas Seals will help the fight against it.

(BREVITY—Identify by IEN-10397 if you write the maker)

TESTING . . Sonic comparator to grade abrasive wheels, ceramic parts

Source: SATURN ELECTRONICS-CO.
8235-39 Witkop Ave., Niagara Falls, N. Y.

Grade or hardness, freedom from included flaws, is read in terms of frequency of vibration in a given body by this new Model 101A sonic comparator. The instrument can be applied on compositions of abrasives, refractories, ceramics, sintered metals, plastics in the form of identical bodies such as plates both rectangular and circular, cylinders, rings, round and rectangular rods. Capacity is for parts measuring 3 to 20 in. in greatest dimension. In each case the reading obtained on the instrument dial is compared to that for an identical body of known characteristics.

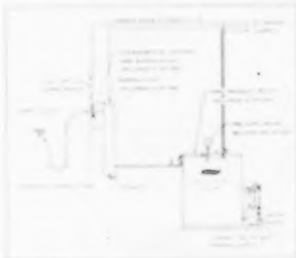
The body to be tested, a grinding wheel for example, is placed on rubber supporting studs on a fixture lying on the instrument table and is moved back against the projecting stylus of an electro-mechanical transducer or vibrator that is extended horizontally from the rear of the table. This unit is driven by a calibrated variable-frequency generator for a frequency range between 100 and 10,000 cycles per second.

Rotating a dial on the frequency control produces a characteristic pattern when resonance is obtained between the vibrated body and the head. The dial then is read in terms of frequency. The test makes no visible mark on the work. Ten to fifteen seconds are sufficient for the test. Operation is on 100 volt 60-cycle ac. with power input at 300 watts.

(BREVITY—Identify by IEN-10398 if you write the maker)

PAINTING . . Spray equipment uses superheated steam in place of air

Source: LIVINGSTONE ENGINEERING CO.
102 Grove St., Worcester 5, Mass.



SP500 designates new application of the company's electrically heated boiler with the required controls and provision for super-heating to supply steam for paint spraying in the place of compressed air. The process was originally developed by DuPont and patent has been applied for.

The Livingstone equipment includes the Speedylectric boiler, previously described IEN-4604-49. It is available in four ratings to serve one to six spray guns. Included is a thermostatically controlled electric superheater for each gun. The boiler operates on 220 to 550-volt ac., rates 20 to 120 kw on the input side. The smallest measures 16 by 40 by 40 inches. The largest is 22 by 65 by 44 in. overall. Each is designed for 100-lb. pressure and meets all of the standard governing codes.

The company does not supply the spray guns and accessory spray equipment but will name the equipment makers on request. It does supply the boiler and its accessories ready to connect to the power line and to apply the guns and paint-handling equipment for a given application.

(BREVITY—Identify by IEN-10399 if you write the maker)

WELDING . . Pressure process joins non-ferrous metals, for license

Source: KOLDWELD CORP.
10 E. 40th St., Suite 4408, New York 16, N. Y.

Ask for four page Koldweld Bulletin

New information is available on the Koldweld Process by which non-ferrous metals, particularly aluminum in sheet and wire form, are joined or welded by application of pressure only. The process is available for license by manufacturers in the United States under exclusive rights held by the company from the English originator, General Electric Company Limited of England. License includes access to the company's knowledge and experience including tool designs, equipment requirements, handling instructions.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

WHAT DO YOU NEED?

READER SERVICE FORM . . Look between pages 16 and 17 or 96 and 97 and "lift" the form you find there. Keep it beside you as you look through the pages. Note on it the numbers of the products on which you want further information. Then either mail it to us, so we can forward your requests to the manufacturers, or use it as your guide to write direct.

•

From a Mine Superintendent

"It would be difficult to enumerate all of the items we have located and purchased through the help of Industrial Equipment News. A few include communicating equipment, safety equipment, conveyors, elevators, timers. The literature we receive from our inquiries is all kept on file and is referred to continually."

•

Departments

READER SERVICE FORM — Pages 16-17 and 96-97
To assist you in securing the information you want

SUBJECT INDEX — Page 110
Products and services listed by name and by function

YOUR OWN EXPERIENCE — Page 4
Make it available for others and profit yourself

NEW LITERATURE — Page 25
Condensed reviews of current manufacturers' catalogs

NEWS NOTES — Page 75
Reviews of unusually helpful literature and services

"I WISH I HAD" — Page 112
Enquiries we cannot answer, printed in the hope you can

•

Our selections in this issue

CHUCK — Page 96
Universal scroll design with independent centering

COMMUNICATING — Page 90
Telephone with talk-listen, station call function

CONVEYING — Page 22
Belt type unit moves bulk materials to store or ship

FASTENING — Page 100
Anchor studs driven by cartridge in portable tool

FEEDING — Page 37
Proportioning pump feeds liquid chemical into flow line

LUBRICATING — Page 13
Spray equipment meters oil or grease to open surfaces

MAGNIFYING — Page 41
Illuminated lens for use in inspection and assembly

MILLING — Page 2
Universal machine for tool room and experimental work

PAINTING — Page 80
Use of color in plant painting to aid production

TACHOMETER — Page 10
With recording chart, sends and records 40,000 rpm.

TESTING — Page 99
Optical inspection unit for pipe interiors

WAX — Page 52
For snow shovels, plows, prevents snow from sticking

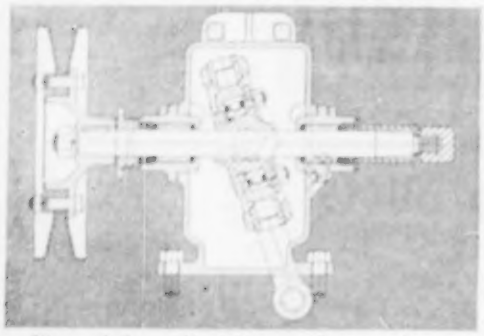
W. E. Irish. — V. Pres. & Editor
F. Morse Smith — V. Pres. in Charge

THOMAS PUBLISHING COMPANY
461 - 8th Ave., New York 1, N.Y.—LOngacre 3-1546

FILL IN AND SEND ALONG TO OTHERS INTERESTED IN PRODUCT INFORMATION

- ☐ Plant Operating Mr. ________
- ☐ Production Mr. ________
- ☐ Engineering Mr. ________
- ☐ Product Design Mr. ________
- ☐ Purchasing Mr. ________
- ☐ ________

BREVITY—Identify by IEN-10400 if you write the maker



Double Action Bearing

Translating rotary motion into reciprocating motion for the sickle drive on the Allis-Chalmers Forage Harvester is not a job for a bearing that can't put up with a daily round of diurn motions and alternating loads.

One compact New Departure single row ball bearing does the job because taking thrust in both directions as well as radial load is fundamental to its design. Without need for adjustments, this bearing uniquely combines the required internal rigidity with utmost freedom of rotation—needs minimum attention of any kind.

New Departure, Division of General Motors, Bristol, Connecticut

Nothing Rolls Like a Ball . . .

NEW DEPARTURE
BALL BEARINGS

BREVITY—Identify by IEN-10401 if you write the maker

FREE! 32-PAGE HANDBOOK
SHOWS HOW TO STOP CONDENSATION DRIP

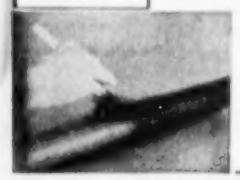
NoDrip

Stops Drip from:
- ✓ Cold water pipes
- ✓ Water filter tanks
- ✓ Metal or concrete ceilings
- ✓ Basement walls
- ✓ Condensers
- ✓ Air Ducts
- ✓ Blower pipes
- ✓ Dust Collectors
- ✓ Crystallizers

Learn how you can control condensation drip from pipes, tanks, ceilings—from metal, wood or masonry surfaces.

LOW COST — EASY TO APPLY

Anyone can apply NoDrip, the triple-duty insulation type coating. Brush it on or spray it on. Use it on pipes or equipment where temperature differences cause condensation. Save money by preventing rust and corrosion. Deaden sound, decrease vibration on metal ducts or pipes.



HANDBOOK SHOWS HOW

Send today for your copy of the NoDrip HANDBOOK which tells what this plastic-cork material can do for you. It's the modern solution to condensation drip problems.

Send for your Free Handbook Now!

J. W. MORTELL CO.
Technical Coatings Since 1891
Dept. 18, Kankakee, Ill.

BREVITY—Identify by IEN-10402 if you write the maker

Make Less Metal Do More Work

- by adding structural and impact strength without increasing weight.
- by giving attractive textures for eye-appeal and to resist scratching, marring, finger prints and "oodling."
- by a reduction of 25% to 50% in gauge without impairing structural values.

INVESTIGATE! Write Today!

See our CATALOG in SWEET'S FILE

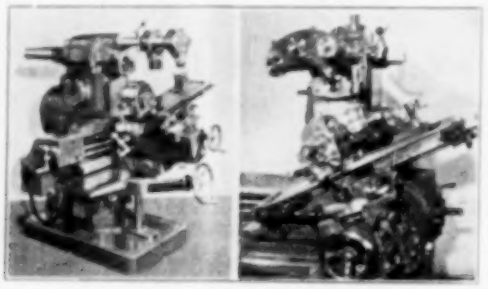
U. S. and Foreign Patents

Rigidized Metals Corporation
654 Ohio St. Buffalo, N. Y.
Sales Offices in Principal Cities

BREVITY—Identify by IEN-10403 if you write the maker

MILLING . . Universal machine for tool room and experimental work

Source: BROWN & SHARPE MFG. CO.
235 Promenade St., Providence 1, R. I.



Tilt and swivel movements are provided for the table in this new Omniversal No. 0 milling machine in addition to longitudinal and transverse table feed and longitudinal slide movement of the knee on vertically adjustable ways. Work positioned on the table directly, or between centers in indexing arrangement, can be located and fed in most any desired simple or compound angle either vertical or horizontal.

The main horizontal spindle in the machine head is supplemented by an auxiliary head that mounts on the side or in either of the overarm holes for drive through gearing at the rear. This head can be positioned at any desired angle, simple or compound, in either plane for hand feed at its spindle.

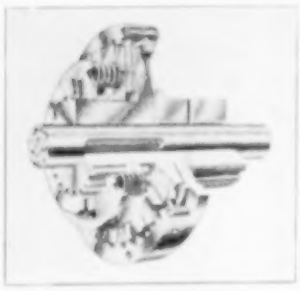
Table working surface measures 34 by 9 inches. Longitudinal movement is through 17 inches. The knee adds another 17 inches. Transverse movement is 6 inches. Swivel is to 50 deg. on each side of center. Vertical adjustment is 15 inches. The table centers swing 10 in., take 17¾ in. in length. The main spindle takes a 10-in. cutter under the overarms. The speed range is 40 to 1,530 rpm. The auxiliary spindle ranges 70 to 2,880 rpm., has a 2-in. hand feed in axial direction. Table feed is ⅛ to 15 ipm.

Bulletin, 4 pages, "No. 0 Omniversal Milling Machine", presents illustrated description and specifications.

BREVITY—Identify by IEN-10404 if you write the maker

DRIVE . . Disc type friction clutch for constant torque in winding drives

Source: HILLIARD CORP.
35 W. 4th St., Elmira, N. Y.



New slip clutch assembles one, two or three friction-faced discs in a spring-backed adjustable assembly in which a desired maximum torque can be set. On exceeding this torque the clutch will slip to hold the load constant. A range of sizes measure 2⅝ to 27 in. in diameter. Torque is to 10,000 foot pounds. Heat-dissipating capacity is to the equivalent of 8½ horsepower.

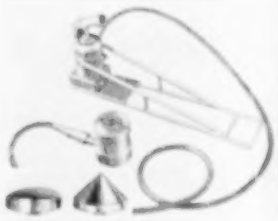
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN-10405 if you write the maker

A NEWS ADVERTISEMENT BY
THE DUFF-NORTON MANUFACTURING COMPANY

"LO-HITE" JACK . . . Hydraulic Unit for heavy lifting in confined areas

Source: THE DUFF-NORTON MANUFACTURING CO.
Pittsburgh 30, Pa.



For use where confined spaces limit operation of a conventional lifting jack, Duff-Norton has developed the "Lo-Hite" Jack. An independent pump connected to the jack by a length of hose permits jack operation from the ground or any convenient plane.

With its closed height of only 4½, this jack will lift a 30-ton load 2 . . . For versatility in jacking operations it is furnished with interchangeable pointed and radius tops, which are heat-treated to assure long service life.

Hydraulic oil in the "Lo-Hite" Jack is contained in a separate chamber independent from the jacking unit. This feature permits operation of the jack in horizontal, vertical, inverted or inclined positions. When not in use the "Lo-Hite" Jack folds into a compact, easy-to-carry unit.

Because this Jack operates efficiently wherever space limitations exist, it has many applications in the construction, marine and general industrial fields. When requesting prices and additional information, specify Model 30-H-4.5.

BREVITY—Identify by IEN-10406 if you write the maker

2160 Holes *Per Hour!*

WITH SPECIAL *Atlas* DRILL PRESS SET-UP

If you're looking for a fast way to drill small parts investigate Atlas Drill Presses, whose speed, ruggedness, accuracy and all-round dependability team up efficiently with special fixtures for profitable production drilling.

For example, General Gas Light Co. of Kalamazoo, Mich., uses an Atlas Drill Press with automatic feeding device to drill 4 holes in brass valves at the rate of 9 pieces a minute—2160 holes per hour! A cam in the feed mechanism drives a rack which operates a pinion connected to the drill press feed spindle. The operator simply positions the work—the Atlas and the automatic feed do all the rest.

There may be dozens of such profitable uses for Atlas drill presses in your production. Send for a catalog today.

New Catalog NOW AVAILABLE! SEND FOR YOUR FREE COPY TODAY!

ATLAS PRESS CO.
1191 N. PITCHER ST.
KALAMAZOO, MICH.

BREVITY—Identify by IEN-10407 if you write the maker

It's *READY*...Just *AIM*, pull the trigger...and *FIRE IS OUT!*

Kidde CO_2 portables are always ready. Just pick up, point horn at fire, pull the trigger. Flame-smothering carbon dioxide does the rest—quick, sure, safe. Write for free literature.

Kidde

Walter Kidde & Company, Inc., 1136 Main St., Belleville 9, N. J.

BREVITY—Identify by IEN-10408 if you write the maker

A *LITTLE ROUTINE SERVICE SAVED A LOT OF BRAZING ALLOY*

To make this oil burner part EASY-FLO 45 joins an inner steel tube and an outer copper tube to the brass forging. Both joints are induction brazed simultaneously, two assemblies at a time in 30 seconds.

A user of our EASY-FLO low temperature silver brazing alloy was doing the job described at left with two rings of 1/16" EASY-FLO 45 wire — and he was perfectly happy with results.

On a routine follow up visit, our field man felt they were using more alloy than was needed. He sent parts to our research lab. There they found that rings of 1/32" and 1/64" were ample. This little reduction in size of alloy wire has meant a juicy cut in alloy costs.

CAN YOUR BRAZING COSTS BE CUT?

We'll send a field man to give you the answer. No obligation. Write or call. For EASY-FLO facts in print write for the new *Bulletin 20*.

HANDY & HARMAN 82 Fulton St., New York 7, N. Y.

▼ BREVITY—Identify by IEN-10409 if you write the maker ▼

Free

HELPFUL INFORMATION for PUMP USERS

Here is a new booklet that belongs in the files of every maintenance man and buyer of pumping equipment.

It describes how pump operators and leading pump manufacturers have successfully dealt with those long-time enemies of pump life—corrosion, corrosion-fatigue, erosion and excessive wear.

Illustrated case histories drawn from important industrial fields may help you solve your own pump problems.

Send for your copy today. Ask for: *"How to Get Longer Service from Your Pumps."*

THE INTERNATIONAL NICKEL COMPANY, INC.
73 Wall Street, New York 5, N. Y.

▼ BREVITY—Identify by IEN-10410 if you write the maker ▼

SECURITYFLEX

the tough portable cord

- *It won't kink.*
- *Long life under continuous flexing.*
- *Insulation resists heat.*
- *Neoprene jacket licks oil, water, abrasion, sunlight, weather.*

Give your tools the cord that's tough—give them Securityflex*. Anaconda Wire & Cable Company, 25 Broadway, New York 4, New York.
*Reg. U. S. Pat. Off. 30241 Rev.

The right cable for the job

ANACONDA® WIRE AND CABLE

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Browning

FLEXIBLE COUPLINGS WITH SPLIT TAPER COMPRESSION BUSHINGS

(1) Bushed type—eliminates expensive reboring—wide bore selection
(2) Completely machined from solid steel or malleable castings
(3) Compact-maximum strength
(4) Neoprene insert-added strength, resiliency, shock absorbing, oilproof, greaseproof, heat resistant
(5) Easy to mount, easy to remove, positive locking clamp fit. 1/6th to 40 H.P. range—available from stock.

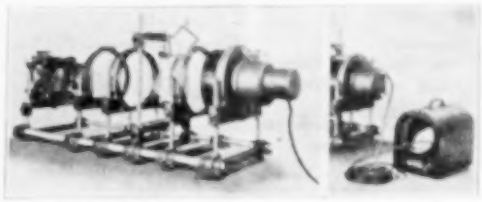
Nationwide service—write for the name of the BROWNING Gripbelt distributor near you

BROWNING MANUFACTURING COMPANY
INCORPORATED
1950 BROWNING DRIVE MAYSVILLE, KENTUCKY

▼ BREVITY—Identify by IEN-10412 if you write the maker ▼

TESTING . . Polariscope to make dynamic stress measurements

Source: GENERAL RADIO CO.
273-77 Massachusetts Ave., Cambridge 39, Mass.



Type 1534-A is a new polariscope for photoelastic stress analysis employing models made preferably of water-white Catalin that has been contour cut from sheets cast between plate-glass surfaces. The instrument is featured by its use of a high-speed high-power stroboscope-type lamp to minimize the exposure interval so extreme weight is not required to hold steady in order to expose the camera film. This lamp is interchangeable with an incandescent light source for steady visual observation. The (0.0004 sec. flash from the stroboscope lamp permits use of process film, a camera aperture of f/4.5 and an 8-in. field.

Two horizontal shafts 36 in. in length form the base of the new assembly. They mount a diffuser frame for the light source, at the right in the illustration, a polariser, a straining bridge for the model, an analyzer, a filter and a mount for the camera. The user supplies the camera, can specify the Strobolume lamp. The polarizer and analyzer units are identical and register for right and left-hand circular polarization. All elements adjust horizontally and also vertically. Overall dimensions are 36 by 14¼ by 16¼ inches. List price without camera is $400. The Strobolume adds $225.

▼ BREVITY—Identify by IEN-10413 if you write the maker ▼

GRINDING . . Portable electric tool drives 3 in. discs, weighs 4½ pounds

Source: CRAFT-HOLLOW INDUSTRIES
49 Providence Road, Wallingford, Pa.

Speed has been increased from 4,500 rpm. to 12,000 rpm. in this new design of the company's miniature portable grinder previously described IEN-1927-49. The new design employs a universal ball-bearing General Electric motor with bearings factory lubricated and permanently sealed. It applies an air filter on the rear end of the housing to keep the motor clean. Air is blown from this end over the motor windings to issue at narrow outlet ports just back of the head.

The aluminum housing is 3 in. in diameter and carries a new design of slide switch for the motor. Overall length is 7½ inches. Weight is 4½ pounds. Gears between the motor and ball-bearing spindle are steel with spiral-bevel teeth. Application can be made on metals and non-metallic work. The tool is suited for tool sharpening as well as for the usual types of disc work. List price is $59.50 for the tool in a wood carrying case with seven discs as specified in composition material or aluminum oxide with fibre or cloth backing.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN-10414 if you write the maker ▼

It's a Robins Troughing Idler—with features no other belt conveyor idler can offer.

Robins Ball Bearing Troughing Idlers fit belt conveyors up to 36" wide. Robins Roller Bearing Troughing Idlers have exclusive Triple Grease Seal which locks grease in, keeps dirt and moisture out. Sizes to fit belt conveyors up to 60". Both types provide exclusive One-Shot Lubrication.

Immediate shipment from stock. Most sizes of Robins Idlers now carried in stock for immediate shipment. For Troughing, Return, or Flat Belt Idlers write for Bulletin 120-A.

ROBINS IDLERS

ROBINS CONVEYORS DIVISION
Hewitt-Robins Incorporated
Passaic, New Jersey

▼ BREVITY—Identify by IEN-10415 if you write the maker ▼

LUBRICATION ECONOMY

"THIS LUBRICANT reduces Service Calls!"

The sales director of the Lynch Corporation, manufacturers of the MORPAC forming and wrapping machine, writes us, *"Our Service Engineers can readily spot machines that have had other than LUBRIPLATE Lubrication, as these machines do not give the service they should."*

1. LUBRIPLATE reduces friction and wear
2. LUBRIPLATE prevents rust and corrosion
3. LUBRIPLATE is economical to use

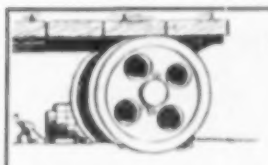
Write today for case histories of savings made through the use of LUBRIPLATE in your industry.

LUBRIPLATE DIVISION
Fike Brothers Refining Co.
Newark, N. J. Toledo 3, Ohio

The Different LUBRICANT!

DEALERS EVERYWHERE, consult your Classified Telephone Book

▼ BREVITY—Identify by IEN-10416 if you write the maker ▼



IN A Rut?

DON'T LET WORN FLOORS SLOW UP PRODUCTION!

A *real* heavy-duty floor must be concrete—*good* concrete. 'Incor' 24-Hour Cement assures stronger, longer-lasting, heavy-duty concrete floors—by curing THOROUGHLY in 24 hours, instead of a week or more.

Don't let worn-out floors slow production—rebuild floors over a week-end with 'Incor'*—no plant tie-up—no time-loss!

Write for booklet, "Heavy-Duty Floors"—address Lone Star Cement Corporation, 100 Park Avenue, New York 17.
*Reg. U.S. Pat. Off.

LONE STAR CEMENT CORPORATION
Offices: Albany • Bethlehem, Pa. • Birmingham • Boston • Chicago • Dallas • Houston • Indianapolis • Jackson, Miss. • Kansas City, Mo. • New Orleans • New York • Norfolk • Philadelphia • St. Louis • Washington, D. C.

▼ BREVITY—Identify by IEN-10417 if you write the maker ▼

Experience is the best Teacher

Actual experience has proven to many designers that regardless of varying operating conditions, they can depend on Norma-Hoffmann Bearings to give dependable performance. These precision ball and roller bearings give high anti-friction smoothness and quiet operation. They are available in a wide range of types and sizes to meet every load, speed and duty. Write for catalog and engineering assistance.

Norma-Hoffmann Precision Bearings

NORMA-HOFFMANN BEARINGS CORPORATION
Stamford, Connecticut

▼ BREEFITS—Identify by IEN-10418 if you write the maker ▼

Every designer must be something of a metallurgist

Here are 72 pages packed with information of vital significance to engineers faced with the design, selection and treatment of steel components to give a specified service at minimum cost.

Besides dealing with scientific design, the book gives important metallurgical data, all compiled from the designer's viewpoint. Free on request.

This booklet sent to you FREE

Climax Molybdenum Company
500 Fifth Avenue · New York City

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This Issue 65,000 Copies
Printed by Charles Francis Press, New York

Industrial Equipment News acts solely as a news reporting agency for data supplied to it on new industrial developments.

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461 Eighth Avenue, New York 1, N. Y.

What's New · EQUIPMENT · PARTS · MATERIALS

Vol. 18 NOVEMBER, 1950 No. 11

Your Own Experience

The manufacturer of a home appliance had to increase overall productivity in his plant but could not make any additional investment. He found the answer to his problem from the representative for the company whose screw machines he was using. This representative suggested tracing the course of work through the plant. He showed the manufacturer how to do the tracing job. By simple elimination of the back-tracking which the investigation exposed the manufacturer was able to rearrange his equipment to accomplish all he had hoped.

The ten-inch silent chain connecting a forming press to its sixty horsepower motor was torn apart when a shear pin fell between the chain and the lower sprocket. It was imperative that the press be returned to production immediately. The chain maker's best promise was two weeks for a new chain, or even enough to repair the old one. The plant engineer found sufficient undamaged length to wrap the two sprockets and thus turn them into flat face pulleys. He applied a ten-inch leather belt and side guides to hold it in place. The press was running in four hours from the time of the breakdown.

Five starters serving seventy-five horsepower motors on high-speed pressure blowers burned out one after another until only one was left. The service department for the starter maker came in when unavoidable delay developed in delivery of repairs. This department rigged the remaining starter. It called repair pieces from the other four so the one could be employed in connection with breakers to each fan to start the motors in turn.

The eighty ton runner for a water wheel stood about sixteen feet in greatest diameter and about the same in height. Two thirty-ton cranes were used in tandem with an equalizer to lift the runner to a boring mill where its upper face was machined. Then it had to be turned over. The two cranes could not be manipulated in unison rapidly or surely enough to do the job. The crane maker solved that one when his advice was asked. His suggestion was to dig a hole sufficiently large in the shop floor, fill it with sand and use one thirty-ton crane just to tip the casting over. It fell safely into the yielding sand. The labor gang dug around it until it was standing as desired. Then the two cranes picked it up and put it back on the boring mill.

The important point in these four random cases is not in the answers that were found for the given problems. Rather it lies in a set of facts, easily recognizable.

Answers are available to solve any problem in production, plant operation or product design. In many cases they need involve no capital expenditure. The best source for these answers is the makers of the products, facilities and services that parallel or are involved in each problem. Why are they the best? Because you and you and you, all plant men, have given them, example by example, whenever requested, the solutions you have worked out. They have accumulated this information and hold it for others with similar problems. They are "spreaders" for your experience.

Dig down in your own knowledge. Come up with a half-dozen examples of problems and your solutions. Mail the information to your favorite manufacturers, to the attention of the sales or advertising manager. You will find it worth while.

W. E. Irish.

▼ BREEFITS—Identify by IEN-10421 if you write the maker ▼

HIGH EFFICIENCY
DUST CONTROL
with DUCON WASHERS

- Afford the most economical and efficient control and wet suppression of dust and fumes because of superior design and unique features.

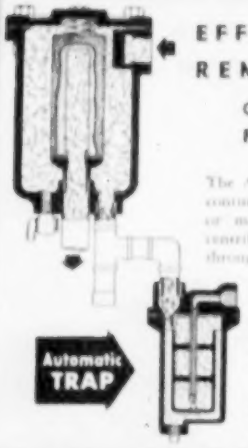
- In addition to use for washing of air and gases, DUCON Centrifugal Wash Collectors are ideal for many other applications, such as: gas absorption, condensation of solvents, heat exchange, distillation and chemical reactions.
- Assure collecting efficiency up to 99%. No secondary dust problem. No moving parts, therefore practically no maintenance. Retains constant air capacity. Eliminates fire and explosion hazards. Can be used in high temperatures.
- Construction: steel plate, electrically welded. Easy accessibility to all internal parts. Built for simplified installation.

Write for descriptive, illustrated Bulletin CW48-1.

The DUCON Co.
MINEOLA, N. Y.

▼ BREEFITS—Identify by IEN-10419 if you write the maker ▼

Poro-Stone Filtration
FOR COMPRESSED AIR



EFFICIENTLY REMOVES
OIL, WATER
PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 176.

R. P. ADAMS CO., INC.
719 E. Park Dr., Buffalo 17, N. Y.

ADAMS *Poro-Stone* **AIR FILTER**

▼ BREEFITS—Identify by IEN-10422 if you write the maker ▼

S-A Car Pullers

Save Time,
Cut Costs

If you have your own switch track, you can use an S-A Car Puller. No need to use a gang of men or wait for a switch engine. *One man can shift or spot up to six loaded cars under normal conditions.* Powerful capstan will also pull or lift other heavy loads at 45 feet per minute.

Write for bulletin 1339

STEPHEN S-A DAMSON

Tellevel Bin Level Controls • Car Loaders
SACO Speed Reducers Car Pullers • Winches
SealMaster Ball Bearings

211 Ridgeway Ave., Aurora, Illinois

▼ BREEFITS—Identify by IEN-10420 if you write the maker ▼

Save On Steam Costs with CRANE Steam and Oil Separators

WORKING PRESSURES:
125 POUNDS saturated steam
250 POUNDS saturated steam
SIZES: 1½ to 12-in.

Moisture in steam reduces its service efficiency . . . causes fuel waste. Oil-laden exhaust steam is unfit for further use either as a heating medium or for condensate recovery. Both these wasteful conditions can be remedied easily and economically with Crane Steam and Oil Separators.

Available in Horizontal and Vertical types, these Separators assure the highest degree of efficiency with the lowest possible pressure drop. Body design prevents steam from entering the separator at high velocities; large, corrugated baffle plate frees steam of most accumulated moisture, affords ready drainage. For complete information, see your No. 49 CRANE CATALOG.

CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

EVERYTHING FOR EVERY PIPING SYSTEM
CRANE
VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

▼ BREEFITS—Identify by IEN-10423 if you write the maker ▼

WHEN YOU . . .
Disconnect, You Stop the Flow in *Both* Ends

Wherever the flow of air, fluids, or gases must be interrupted, Wiggins *INST-O-MATIC* couplings are lowering costs. Uncouple a Wiggins. You've automatically stopped the flow in both ends. Connecting, or disconnecting, is as simple as switching on a light. Wiggins *INST-O-MATIC* couplings can increase efficiency in your plant today, and lower costs.

EQUIPMENT MANUFACTURERS

Users' experiences prove conclusively that this design stands up longer under extreme pressure and vibration, and rarely requires replacement. Inquire today.

BASIC SIZES: ¼", ⅜", ½", also intermediate sizes where needed. Unconditionally guaranteed to be leak proof from 2 to maximum recommended pressure.

Wiggins

For proof of performance, write for name of nearest representative. E. R. WIGGINS OIL TOOL CO., INC., 3424 E. Olympic Blvd., Los Angeles 23, Calif.

QUICK DISCONNECT
INST-O-MATIC COUPLINGS

▼ BREEZE—Identify by IEN-10424 if you write the maker ▼

NO EXCUSE FOR COSTLY MISALIGNMENT!

GET LOVEJOY L-R FLEXIBLE COUPLINGS TO-DAY

There is no reason for excess wear on bearings, shafts, and other equipment when it is so easy to get these fine flexible couplings. Free-floating, heavy duty load cushions in Lovejoy engineered couplings compensate for surge, back-lash and misalignment. Here's a coupling that runs smooth and quietly at any speed. There are cushions for every type of duty, 1/16 to 2500 h.p.

Type "L" For A Pair Proof.

NO SHUT DOWNS FOR CHANGES. NO LUBRICATION.

Get the complete Lovejoy Catalog and see for yourself

Quick-Finding Selector Charts lead you right to the couplings you need. Write, wire or phone today.

LOVEJOY 50 CHICAGO

LOVEJOY FLEXIBLE COUPLING CO.

5014 W. LAKE STREET, CHICAGO 44, ILLINOIS

Also mfrs. of Lovejoy Variable Speed Transmissions and Lovejoy Universal Joints

▼ BREEZE—Identify by IEN-10425 if you write the maker ▼

Here's WHY!

FOR LASTING SERVICE AND LOW MAINTENANCE SPECIFY

- Pillow Blocks
- Take-up Units
- Flange Units
- Cartridge Units
- Flange Cartridge Units

SEALMASTER BALL BEARING UNITS

Only **SEALMASTERS combine these features:**

Permanent Seal—Patented centrifugal seals exclude dirt and retain lubricant.

Self-Aligning—Misalignment of shaft in any direction cannot distort the seals.

No Housing Wear—Patented locking pin prevents rotation of outer race—positions unit for relubrication.

Pre-Lubricated—Each SealMaster is shipped with lubricant sealed in—ready for use.

Write today for a copy of Catalog No. 845

BEARING DIVISION

STEPHEN S-ADAMSON

Factory Representatives and Dealers in All Principal Cities

▼ BREEZE—Identify by IEN-10426 if you write the maker ▼

TERRIFIC FOR TRAFFIC IN DEPARTMENT STORES!

PABCO MASTIPAVE

AMERICA'S NO. 1 LOW-COST LONG-LIFE FLOOR COVERING

PABCO

DANNENBERG'S
Macon, Georgia

"We have approximately 10,000 square feet of Mastipave floor covering in our department store. We have been users of this flooring from 12 to 15 years and have found it to be the most satisfactory floor covering that we could use."

THE JONES STORE CO.
Kansas City, Missouri

"Our experience with Mastipave over many years has been very satisfactory from a standpoint of appearance, long wear under heavy traffic and merchandise trucks, and all the abuse that material of this nature comes under in a large department store. It is easy to keep clean, and it is economical generally."

Neiman-Marcus
Dallas, Texas

"We have had Grip-Tread Mastipave flooring in our basement for approximately five and one half years. It has proved satisfactory in every way and we are sure that it will continue to prove serviceable."

BROADWAY DEPARTMENT STORE, INC.
Los Angeles, California

"We have used Mastipave for several years in our warehouse and cutting service area. The material is comfortable and quiet and is an excellent covering under foot for our employees and provides for an efficient operation in the area covered."

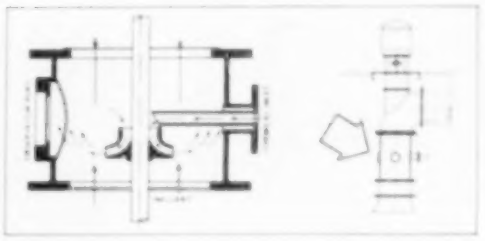
SEND NOW FOR THE FULL STORY OF MASTIPAVE!
(Mail to Dept. E, nearest office)

PABCO PRODUCTS INC.
New York 16 • Chicago 54 • San Francisco 19

▼ BREEZE—Identify by IEN-10427 if you write the maker ▼

MIXING .. Rotor equipped chamber applies as a section in a pipe line

Source: AMERICAN WELL WORKS
98-102 N. Broadway, Aurora, Ill.



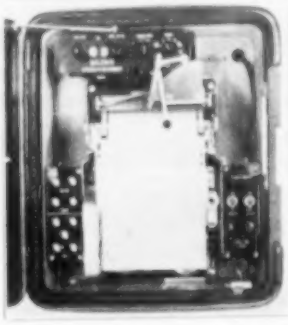
Homomix (trade name) uses assembly of pipe section equipped with a small inlet line for addition of fluids to a main flow stream passing through the section. The section also encloses a centrally located shaft driven by a motor and fitted with a rotor. This rotor is located at the inner delivery end of the small inlet so it picks up the entering fluid and throws it through the main flow in a mixing action.

One or more of the sections, each with its impeller can be assembled in a flow line. Head loss through each is minimal and can be completely offset by addition of an axial-flow propeller which also overcomes back pressure when the flow is operating against an external load. Each section is equipped with a sight window to observe the action. A special elbow fitting provides supporting for the motor and packed access for the rotating shaft. Sizes range from 6 to 24 in. based on the pipe line.

▼ BREEZE—Identify by IEN-10428 if you write the maker ▼

TESTING .. Electronic recorder traces surface strain in a structure

Source: BALDWIN LOCOMOTIVE WORKS
Paschall Post Office, Philadelphia 42, Pa.



Three ranges are maximum at 2,000, 1,000 and 10,000 microinches per inch in this new strip-chart electronic recorder for use with the company's Type SR-4 resistance-wire strain gages. The recorder makes a continuous trace of surface strain in a structure or a machine. The instrument includes adjustments for gage factor, range, coarse and fine zero settings to assist in correct application.

Resistance variations in the strain gage are measured by a 1,000-cps. bridge circuit. Two chart speeds range from ¾ to 720 inches per hour. The chart is 4½ in. in width in the pen area. The pen moves at right angles to the chart movement to simplify readings of time vs. strain. Full-scale traverse speeds are 1, 2 and 5 seconds. The pen can be zeroed at any point on the chart and the instrument range can be changed at any time during a measuring run if zero adjustment settings have been determined initially for all three ranges.

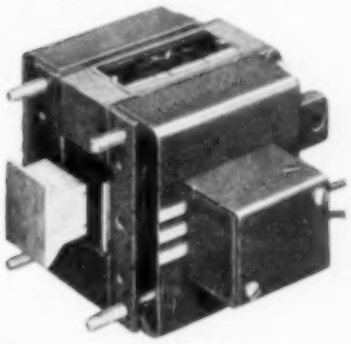
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER ... Descriptions ... Ratings ... See Page 58

▼ BREEZE—Identify by IEN-10429 if you write the maker ▼

TROMBETTA SOLENOID CORP.
MILWAUKEE, WISCONSIN
U.S.A.

FOREMOST SOLENOID MANUFACTURERS IN THE WORLD.

CAN FURNISH SOLENOIDS FOR ANY APPLICATION CONCEIVABLE.



F-326 PULL TYPE SOLENOID
10 lbs. at 85%; 14 lbs. at 100% voltage and 1½" stroke.

THE F-300 LINE OF SOLENOIDS IS THE RESULT OF 26 YEARS OF CONTINUOUS DEVELOPMENT, IMPROVEMENT AND EXPERIENCE.

▼ BREEZE—Identify by IEN-10430 if you write the maker ▼

The New CHROMALOX CATALOG 50

If you use HEAT in any form in your plant—for processes or on production lines—it will more than pay you to send for this catalog. It's packed with specifications for many types of CHROMALOX electric heaters for liquids, solids, air and other gases; also shows the new CHROMALOX all metal Radiant Heater and a complete line of electric unit heaters. Catalog 50 includes valuable application and calculation data.

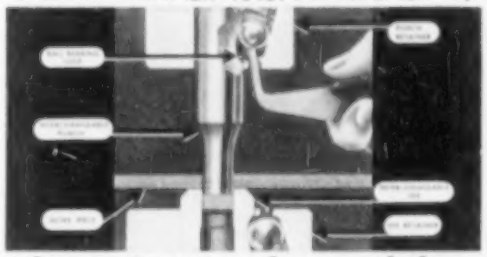
Write Today for YOUR Copy!

EDWIN L. WIEGAND COMPANY, 7500 THOMAS BLVD., PITTSBURGH 8, PA.
See Chromalox Electric Unit Heaters Advertisement, Page 11

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

▼ BREEZE—Identify by IEN-10431 if you write the maker ▼



This R-B* Interchangeability Guarantees Piercing Economy

You can count on low piercing costs when you use R-B interchangeable punches and dies. Their simple, trouble-free design and construction provide quick insertion—instant removal, reducing press "down-time" for replacements to a minimum. And, because they're standardized and interchangeable, R-B punches and dies also cut designing time and simplify die-building.

R-B standard punches and dies are carried in stock. Punches and dies of special sizes, shapes and materials made promptly to your specifications.

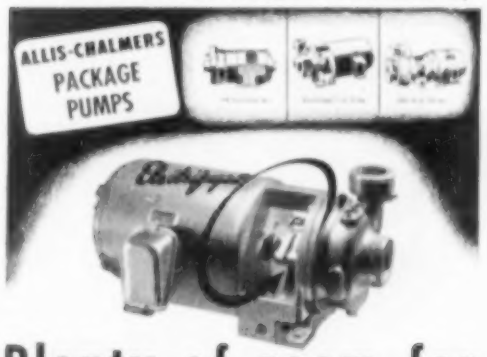
*Richard Brothers

GET THE WHOLE STORY IN THIS 48 PAGE FREE CATALOG

ALLIED PRODUCTS CORPORATION
RICHARD BROTHERS DIVISION
Department 49 • 12615 Burt Road • Detroit 27, Mich.

Also Produced in Allied's Four Plants ... HARDENED AND PRECISION GROUND PARTS • STANDARD CAP SCREWS • SPECIAL COLD FORGED PARTS • SHEET METAL DIES • ALLITE DIES CAST OF ZINC ALLOY • JIGS • FIXTURES •

▼ BREEZE—Identify by IEN-10432 if you write the maker ▼



Plenty of room for maintenance

PACKING REPLACEMENT IS QUICK and easy, yet frame is strong and rigid. Pump and motor are mounted on a single shaft in a single frame with no adapter between. Alignment is perfect and permanent.

Bearing maintenance problems have been eliminated with sealed bearings. A new type of double bearing seal excludes all liquid under all normal operating conditions.

All cast iron frame, replaceable wearing rings, shaft sleeve and other high quality features give you low cost per gallon pumped.

See your Allis-Chalmers Dealer or Sales Office or write for Bulletin 52B6140.

A-3183

ALLIS-CHALMERS, 909A SO. 70 ST.
MILWAUKEE, WIS.

ALLIS-CHALMERS

▼ BREVITY—Identify by IEN-10433 if you write the maker ▼

KEEP THINGS *MOVING* with a

Handles the jobs that are too "tough" for powered belt units. Undamaged by sharp corners or rough edged work. Supplies dependable power in gravity lines.

Work can be slowed or held without stopping conveyor.

METZGAR "LIVE ROLLER" POWER UNIT

4 STANDARD SIZES

ADJUSTABLE HEIGHT

STANDARD WIDTHS 11½", 15", 18", 24"

ALL STEEL BEARING SURFACE

PERMANENT OR PORTABLE BASE

For Full Specifications and Price write for folder No. 1249

METZGAR CO.
417 Douglas N. W.
GRAND RAPIDS 4, MICH.

▼ BREVITY—Identify by IEN-10434 if you write the maker ▼

Here's the CRANE for Constant Service at High-Speed

If your handling operations must be "on the go all the time and fast, too", then investigate this American MonoRail Crane. Coupled with constant service at high speed, it offers the advantages of easy movement, rugged construction, low-cost operation and quick installation.

An American MonoRail engineer will gladly give you all the details, or write us about the American MonoRail Constant-Service High-Speed Crane.

THE AMERICAN MONORAIL COMPANY
13111 Athens Avenue • Cleveland 7, Ohio

▼ BREVITY—Identify by IEN-10435 if you write the maker ▼

New Data Book

ON STAINLESS AND HEAT RESISTING STEELS

- This 133-page book contains engineering information on the selection and fabrication of Carpenter Stainless and Heat Resisting Steels to meet specific requirements.
- The Check List for Ordering Stainless Steel starting on page 15 may help you find new ways to pay less for the Stainless you use.
- To get your copy, return the coupon or write a note on your company letterhead, indicating your title.

THE CARPENTER STEEL COMPANY
151 W. BERN STREET, READING, PA.

Please send me copy of "Working Data for Carpenter Stainless & Heat Resisting Steels."

NAME (PLEASE PRINT) TITLE

COMPANY (FOR REPLY MAILED TO COMPANY)

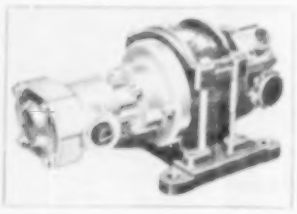
ADDRESS

CITY ZONE STATE

▼ BREVITY—Identify by IEN-10436 if you write the maker ▼

COMPRESSOR . . Vane type rotary rates ½ cfm. against ½ in. mercury

Source: ARO EQUIPMENT CORP.
107-11 Madison St., Bryan, Ohio



Model C-10250 is a vane type rotary compressor, known as the company's Dry Air Pump, to deliver small amounts of air free from any entrained oil. The pump mounts directly on the end housing of an electric motor which is supplied for 24-volt operation when the pump is to be employed in aircraft service. It requires no lubrication, can be operated satisfactorily in a temperature range between minus 65 and plus 140 deg. F.

The pump housing measures approximately 3¾ in. in length by 2 in. in height. Overall length with the 24-volt motor is 8 inches. Width across the motor base is 4¼ inches. Pump inlet and outlet are threaded for ⅜ in. pipe. Distance between connection faces is 3 inches.

▼ BREVITY—Identify by IEN-10437 if you write the maker ▼

ROLLING . . Alloy steel roll for use dry on high speed steel

Source: BIRDSBORO STEEL FOUNDRY & MACHINE CO.
Funk St., Birdsboro, Pa.

To take place of hammering

New cast roll is a copper molybdenum alloy with steel for application to a rolling mill to reduce high-speed steel from ingot to billet form. The roll is known as Birdsboro 30. It ranges from 10 to 32 in. in diameter and from 33 to 66 in. in length. It will roll ingots to 12 by 12 inches. Average reduction is about 8 per cent per pass. No water is employed. The roll will not expand any great amount under extreme heat.

▼ BREVITY—Identify by IEN-10438 if you write the maker ▼

SEALING . . Connection gaskets made of Teflon, solid and jacketed

Source: CHICAGO GASKET CO.
1273-77 W. North Ave., Chicago 22, Ill.

Sizes range from ⅛ to 6 in. inside diameter and in outside sizes and shapes for standard or special flanges in this new Korda and Korda-Clad line of gaskets based on the plastic material Teflon. The gaskets are resistant to attack by acids, alkalis, corrosive chemicals. Three available grades are hard, medium, soft, to suit a range of applications.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN-10439 if you write the maker ▼

JUST SAY "TRUSCON" AND THERE'S A BUILDING

Meet today's needs for adequate manufacturing and storage facilities with Truscon Ready-Made Steel Buildings. These standard unit, prefabricated structures can be combined in innumerable ways to form buildings for many purposes. Features include: fire resistance, permanence, ease and speed of erection, low upkeep, low cost and high permanent value. They can be dismantled and re-erected quickly and easily on any site of your selection.

FREE BOOK! Shows actual installations and mechanical details, to help you develop your plans.

TRUSCON STEEL COMPANY
YOUNGSTOWN 1, OHIO • Subsidiary of Republic Steel Corporation

▼ BREVITY—Identify by IEN-10440 if you write the maker ▼

When Electric Power Fails . . .

Prevent Spoilage of Materials in Process

with **ONAN STANDBY ELECTRIC PLANTS**

Model 10K
10,000 watts, A.C.

An Onan Standby Electric Plant equipped with automatic controls starts by itself and takes over the job of supplying electricity whenever commercial power fails. Processing and assembly lines, refrigeration, heating and ventilating systems, and lighting continue to operate with only a few seconds of lost time. This insurance is inexpensive, one power failure may pay the entire cost of the electric plant. Built for heavy duty use, Onan plants will run continuously if necessary. 1,000 to 75,000 watts A.C. Operate on natural gas, gasoline or with Diesel engine power. Shipped complete. Ready to run.

WRITE FOR **FREE** FOLDER

D. W. ONAN & SONS INC.
2727 Royalston Ave. • Minneapolis 5, Minn.

▼ BREVITY—Identify by IEN-10441 if you write the maker ▼

NEW NEW NEW

ADHESIVE BACKED, CHROMATE

Impregnated Felt

SEALING TAPES & GASKETINGS

NEW!

Chrome Lock

PREVENTS CORROSION
SEALS JOINTS AGAINST MOISTURE, AIR AND DUST

Chrome Lock's low-cost sealing tapes and gaskets are ideally suited to all types of products and surfaces. Its specially impregnated felt base assures a tamper-proof and a lifetime of protection from all elements. . . . Read these features.

- PRESSURE SENSITIVE ADHESIVE BACK: Makes combined and all other applications extra simple. Neoprene-rubber pressure-sensitive adhesive.
- ANTI-WICKING: Non-soluble in water or salt solutions in normal pressure applications.
- PREVENTS CORROSION: Chrome Lock chrome prime coat is a barrier against corrosion.
- PREVENTS ELECTROLYSIS: Jetkote thermoplastic acrylic between chrome and metal.
- LIFETIME PLIABILITY: Chrome Lock resists prime coat from hardening. Does not embrittle.
- NATIONWIDE SERVICE: Chrome Lock products are available in all sizes and widths.

Write on your company letterhead for **FREE** Engineering Folder No. 10000 **Today!**

A PRODUCT OF
PRODUCTS RESEARCH COMPANY

SPRING PACKING CORPORATION
332 SOUTH MICHIGAN AVENUE . . . CHICAGO 4, ILLINOIS

▼ BREVITY—Identify by IEN-10442 if you write the maker ▼

EYE LEVEL CHECK ON BOILER WATER LEVELS

Positive, constant check on boiler water levels is now possible at eye level—right on the instrument panel or other convenient location.

Yarway's Remote Liquid Level Indicator is always accurate because it's operated by the boiler water itself. No stuffing boxes. Indicating mechanism is never under pressure.

Ideal for indicating boiler water level, feed heater water level, superheater pressure differentials and tank levels. For complete description and operating details, write for Bulletin WG-1821.

YARNALL-WARING COMPANY
122 Mermaid Avenue, Philadelphia 18, Pa.

YARWAY
REMOTE LIQUID LEVEL INDICATOR

▼ BRIEFIT—Identify by IEN-10443 if you write the maker ▼

Aerovent FAN

BELTED DUCT FAN

KEEPS MOTOR OUT OF AIR STREAM

For Foundries, Paint Spray Booths, Sanding, Acid Tank Rooms, etc., where fan motors must be protected.

Aerovent Belted Duct Fans with "Mushete" design handle maximum air with minimum use of power. Sizes 12" to 84"; 2, 4, or 6 blades. All fans furnished with ball bearing motors suitable for mounting in any position. Easily installed for many applications.

Certified Ratings — PFMA

Other Models: Direct Connected, Man Cooling, Extended Shaft, Duct Type, Pulley Drive.

Write today for ENGINEERING BULLETIN

AEROVENT FAN CO., INC.

ASH AND BROWN STREETS, PIQUA, OHIO

Sales Engineers in Principal Cities

▼ BRIEFIT—Identify by IEN-10444 if you write the maker ▼

LIFE EXPECTANCY UNKNOWN

ENRUP, new plastic by U. S. Rubber, outmodes present standards of endurance on many industrial applications

One of the many uses of Enrup plastic is this Enrup gear which has been operating for six months on a heavy duty 36-inch lathe without showing signs of wear. Other Enrup gears have been operating for as long as a year where ordinary metal gears have failed within a few days or weeks. Enrup outwears steel, is non-conductive, non-absorbent, easy to clean. It has high tensile and impact strength, is unaffected by oils, can be made into almost any shape or form: punched, sawed, molded, nailed, bolted, molded, and machined. Can your product be improved by this versatile material? Write to:

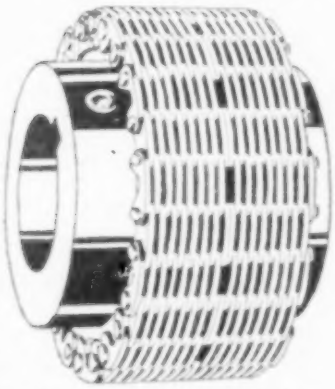
U.S. RUBBER — SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY

Mechanical Goods Division • Rockefeller Center, New York 20, N. Y.

▼ BRIEFIT—Identify by IEN-10445 if you write the maker ▼

RAMSEY COUPLINGS



An all-metal product with flexibility attained through design rather than materials. Simple, sturdy, compact. Easily installed. Eleven sizes available for wide range of loads. Protective aluminum covers. Shipments from stock. Send for literature giving dimensions, capacities, prices, etc.

RAMSEY CHAIN COMPANY, INC.

5052 BROADWAY, ALBANY, N. Y.

▼ BRIEFIT—Identify by IEN-10446 if you write the maker ▼

CONNECTOR . . Outlet receptacle with pendulum lock and circuit switch

Source: PANALARM PRODUCTS INC.
7216-20 N. Clark St., Chicago 26, Ill.

Panellit Inter-Lock is a new receptacle with one or two plug sockets to take three or four-wire plugs. The unit is characterized by its pendulum at the front and its bayonet catch at the rear. The pendulum prevents insertion of the plugs until it is swung to one side where it will have tilted the switch to open the circuit. The pendulum also prevents removal of the plugs until it has been moved to one side again. Bayonet or twist-lock design can be specified. List price of the new receptacle is $32 to $37.

▼ BRIEFIT—Identify by IEN-10447 if you write the maker ▼

INSULATING . . Oilproof enamel for electrical equipment, dries in air

Source: IRVINGTON VARNISH & INSULATOR CO.
4-8 Argyle Terrace, Irvington 11, N. J.

Also for sealing pipe connections

Red Enamel No. 32 is a tack insulating enamel for brush application on bus bars, commutator connections, stator slots, field coils, irregularly shaped windings. The enamel dries to a tough resilient film with dielectric strength of 800 volts per mil. It is sufficiently dry to handle in a half hour after application, is hard in eight hours. The time can be shortened by a low temperature bake. Characteristics include resistance to attack by oils, moisture, chemicals, abrasive dust, greases.

▼ BRIEFIT—Identify by IEN-10448 if you write the maker ▼

SPREADING . . Coating attachment for web fed machine, applies adhesive

Source: POTDEVIN MACHINE CO.
1285 38th St., Brooklyn 18, N. Y.

Type BTC is a new attachment in two designs to apply a strip of adhesive to the top or bottom face of a web of material feeding through a machine. Rolls pick up and apply the adhesive from a removable tank forming part of the attachment. Sizes range to a maximum width of 20 inches. The drive can be self-contained or taken from the machine on which application is made. Film thickness is regulated by turning a dial.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . . See Page 50

▼ BRIEFIT—Identify by IEN-10449 if you write the maker ▼

"Key to Lower Costs" contains actual case studies of manufacturers in different types of business. These studies show how much time, effort, space and money have been saved through properly engineered materials handling systems. Doubtless you'll find a problem similar to your own. Write for your copy today.

Logan Conveyors

LOGAN CO., 200 CABEL ST. • LOUISVILLE 6, KY.

▼ BRIEFIT—Identify by IEN-10450 if you write the maker ▼

When detecting temperature by radiation method . . .

Quick-sighting optical system lets user select desired target easily, and then check the sharply defined area which the Rayotube uses. Increased sharpness is also of benefit when radiation comes from end of closed tube.

Hermetically sealed construction at lens, window, and leadwires keeps out dust and gases; guards accuracy even with high or rapidly changing Rayotube "body" temperatures.

Details on request. Leeds & Northrup Company, 4905 Stenton Avenue, Philadelphia 44, Penna.

LEEDS & NORTHRUP CO.

3(LAI NS)(18)

▼ BRIEFIT—Identify by IEN-10451 if you write the maker ▼

COST-CUTTING CARRIER

Rex TableTop Conveyor Chain is known throughout industry for cutting handling costs three ways. *First*, its original cost is low. *Second*, the wide bearing area of specially designed sprockets assures longer, trouble-free life. *Third*, its smooth, steady operation reduces spillage, breakage and jamming to the absolute minimum.

Rex TableTop is ideal for conveying bottles, cans, packages and small parts. Our booklet containing all the details has recently been revised. Send for your copy today.

REX DRIVE AND CONVEYOR CHAINS

50-128

Chain Belt Company
1875 S. Bruce St.
Milwaukee 4, Wis.

Please send me a copy of Bulletin 50-10.

Name: ..... Title: .....
Company: ..... Dept. .....
Address: .....
City: ..... State: .....

▼ BRIEFIT—Identify by IEN-10452 if you write the maker ▼

Because it's BLAW-KNOX "TWISTED BAR" Electroforged Steel Grating

Blaw-Knox Stair Treads available with rolled diamond checker plate nosing, twisted cross-bar nosing or abrasive nosing.

THE twist does the trick—twisted bar construction gives greater traction, makes slipping impossible even if the grating is wet, greasy or icy. The slightly roughened surface grips shoe soles for extra safety, yet the overall surface is level. Trucks and other wheeled vehicles roll freely. In addition, Blaw-Knox Steel Grating is electroforged into one piece for extra strength and durability.

OTHER ADVANTAGES: Maximum open area for light and air. Self-cleaning, easy to maintain, economical to install.

GET THE FACTS FROM BULLETIN 2296

The new bulletin gives complete details, specifications, possible applications and all the outstanding advantages of Electroforged Steel Grating and Stair Treads. Write for your copy today!

BLAW-KNOX DIVISION of Blaw-Knox Company

2118 Farmers Bank Bldg., Pittsburgh 22, Pa.

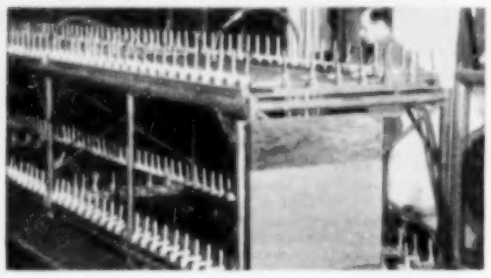
BLAW-KNOX ELECTROFORGED STEEL GRATING

▼ BREEZITY—Identify by IEN-10453 if you write the maker ▼

▼ BREEZITY—Identify by IEN-10454 if you write the maker ▼

Another battery of *KNU-VISE CLAMPS*

to expedite production of hundreds of B-36 parts



Knu-vise clamps are installed on this special table fixture in Consolidated Vultee's San Diego plant to provide an air tight seal around a rubber blanket. Beneath the blanket are parts for B-36 bombers which are joined by Metlbond (a metal adhesive) instead of rivets. The fixture is moved into a furnace where heat and pressure are applied.

The quick acting clamps expedite production of hundreds of B-36 parts—the clamps can be secured and unlocked in a fraction of the time required if screws were used.

Approximately 800 Knu-vise clamps are installed on fixtures in Convair's Metlbond assembly department. On the fixture, the clamps are spaced at 5-inch intervals.

Send for Complete Catalog
Sales Representatives in Principal Cities

KNU-VISE PRODUCTS **LAPEER MFG. CO.**
3056 DAVISON ROAD • LAPEER, MICHIGAN

Western Division: 422 Magnolia Street, Glendale, California
Canadian Stocking Distributor: Higginson Engr. Sales
P. O. Box 21, Hamilton, Ontario

▼ BREEZITY—Identify by IEN-10455 if you write the maker ▼

HOOKS, TONGS GRIPS and SLINGS

Downs Grabs are designed to do a multitude of lifting jobs faster with a greater margin of safety. Handling steel coils, heavy bags, plate and structural steel, bar stock, drums, etc., is always easier with Downs Grabs. Learn about savings. Write for free Bulletin No. 2008.

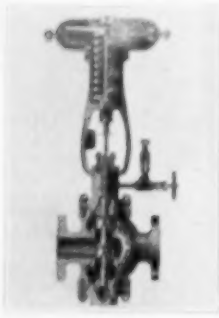
DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS — 340 W. VERNON AVENUE, LOS ANGELES 37, CALIF.

Electric Cranes • Hand Cranes • Jib Cranes • Shears • Sheave Blocks • Plate Grips • Plate Hooks • Crane Trolley Hoists • Crane Wheels • Crane End Truck Units • Jib Crane Fittings • Automatic Mechanical Load Brake • Crane Hook Blocks

▼ BREEZITY—Identify by IEN-10456 if you write the maker ▼

VALVE . . Diaphragm operated for flow control, 1/2 to 16 in. sizes

Source: MASON-NEILAN REGULATOR CO.
118-92 Adams St., Boston 24, Mass.



Interchangeability of operating parts, choice of body materials for desired pressure and temperature and fluid, control operation on air pressure ranges of 3 to 15 lb. or 6 to 30 lb. by interchanging the control springs, all feature the construction of this new diaphragm-operated valve. It is made in single-seated design with a percentage piston in ½ to 1 in. sizes with trim interchangeable between ¼ and ⅝ in. to five steps. It is supplied in double-seated design, percentage-parabolic and percentage V port in sizes from ⅝ to 6 in. and ⅝ to 16 in. respectively. Any unit can be set for air-to-open or air-to-close.

The diaphragm is bonded, reinforced and rides a steel plate welded to the stem which passes down through a nut that adjusts spring pressure. The stem carries an indicator dial to show valve position on a scale attached to the yoke. The stuffing box for stem entry into the body is packed with rings and equipped with a lubricator. Stem and valve plug are pin connected inside the body. The plug rides shouldered and threaded seat rings. A guide bushing holds the stem centered at the bottom of the body in the double-seated design.

Bulletin 303, 12 pages, presents technical data and special options with excellent sectional views and dimension diagrams. Information is included on a slide rule the company has developed to assist in valve selection.

▼ BREEZITY—Identify by IEN-10457 if you write the maker ▼

TESTING . . Magnetic unit inspects for defects during overhaul

Source: MAGNAFLUX CORP.
5914 Northwest Highway, Chicago 31, Ill.

Type DR-543 is a new unit in the company's line of magnetic inspection equipment to disclose cracks and similar defects in machine and engine parts. It was developed to assist in checkup of vehicle and engine parts in racing cars to be entered at Indianapolis. It is available now for engine, aircraft and vehicle plants to inspect the parts during the overhaul operation. It will take parts to 34 in. in length.

It magnetizes the parts which then are sprayed or dipped to cover them with a fluorescent magnetic material suspended in light oil. It mounts a foot and hand-tight fixtures for observation of the magnetized and coated work. Any defects will appear in bright reflection on a dark background. Floor space measures 33 by 78 inches. List price is $1,596.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREEZITY—Identify by IEN-10458 if you write the maker ▼

Ramps Tilt to Meet Truck Body — Standard Wayne Hydraulic Lift

Cut Costs WITH WAYNE LOADING DOCK LIFTS

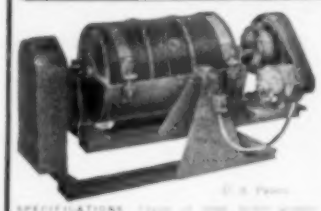
YOU CAN save time and money with Wayne Hydraulic Leveling Ramps to adjust the level of the loading dock to the truck height. Material on skids can be directly transported into the truck body over a level path. A variance of as much as 20 inches in the height of truck bodies may be instantly adjusted by merely turning a valve. Users say: "Cuts Loading time in half . . . . . " "As good as doubling dock facilities." Send for illustrated folder now.

THE WAYNE PUMP COMPANY
531 Tecumseh Street, Fort Wayne 4, Indiana

NATIONWIDE SERVICE

▼ BREEZITY—Identify by IEN-10459 if you write the maker ▼

ARLINGTON BARREL *and* DRUM TUMBLER



For mixing and liquefying up to 55 gallons

Fabricated steel rocking drum from end to end while it is making complete revolutions on its axis mixing and blending wet or dry materials uniformly and thoroughly.

Arlington Giant Paint Restorer

1 h.p. 200 V., 1725 r.p.m. Capacity: 2 5-gal. cans. Each 5-gal. holder accommodates 2 1-gal. cans or several smaller cans. GIANT PAINT RESTORER also to be had with only one holder and with ½ h.p. motor to be plugged into any light socket.

Prices on application.

ARLINGTON, INC.
FORMERLY ARLINGTON MACHINE WORKS
674 Jenks Ave. — Established 1912 — St. Paul 6, Minn.
Distributorships and dealerships still available in new territory

▼ BREEZITY—Identify by IEN-10460 if you write the maker ▼

Oxweld

PORTABLE FLAME-CUTTING MACHINES FILL A VARIETY OF SHOP REQUIREMENTS

This Oxweld CM-16 is designed for oxy-acetylene flame-cutting of steel plate up to 4 inches thick. It travels directly on the work and cuts circles automatically—hand guided, it cuts irregular shapes. Operated on track, this machine cuts straight lines. Adaptors are available for straight line cutting on thick steel or for beveling. The CM-16 weighs only 45 pounds and is low in price. Write for catalog, Form 4487.

THE LINDE AIR PRODUCTS COMPANY
Unit of Union Carbide and Carbon Corporation
30 East 42nd Street UCC New York 17, N. Y.
In Canada: Dominion Oxygen Company, Limited, Toronto

▼ BREEZITY—Identify by IEN-10461 if you write the maker ▼

Electromag Guide Pin Covers

Automatic Protection for Man & Machine

- Interchangeable
- Long Life
- Will not bend or dent
- Neat appearance
- Stock sizes
- Self Aligning
- Fits front or back pins
- Automatic height adjustment

JUST SNAP INTO PLACE

• No tools required • No installation cost • No maintenance cost • No holes to drill • No threads to tap • No moving parts • No engineering required • No layout needed • No adjustments • No work interference

Protects Pins & Bushings From Dirt & Scale
Prevents Injuries to Die Setters & Operators
Protects Pins from Misplaced Work, Nicks or Scratches

CENTRAL SAFETY EQUIPMENT CO.
2204 E. Huntingdon Street — Philadelphia 25, Pa.

▼ DIRECT!—Identify by IEN-10462 if you write the maker ▼

AVAILABLE EVERYWHERE THROUGH ACCREDITED DISTRIBUTORS

▼ DIRECT!—Identify by IEN-10463 if you write the maker ▼

It Must Amortize Itself Rapidly, then Pay Dividends in Increased Production

DETROIT POWER SCREWDRIVERS

A GREAT CONTRIBUTION TO TIME AND LABOR SAVING

They replace the slow, dragging tempo of hand methods with the almost incredible speed of their mechanical operation resulting in tremendously increased production, greater economy and stepped-up profits. They drive all types of screws, standard and special heads. Phillips heads and hidden heads. Driving time one to two seconds per screw . . . uniform torque . . . No marring of heads or stripping of threads. Screws always in sight of operator. Let our experience as specialists in assembly problems serve your interests. Send sample assembly with screws for production estimate and prices on equipment to fit your job by this modern dividend paying method.

Mail Coupon for Catalog

DETROIT POWER SCREWDRIVER CO.
2812 WEST FORT ST., DETROIT 16, MICHIGAN
Yes, send along your new catalog . . . sounds interesting.
COMPANY NAME _____
BY _____
STREET ADDRESS _____
CITY _____ STATE _____

DETROIT POWER SCREWDRIVER CO.

▼ DIRECT!—Identify by IEN-10465 if you write the maker ▼

MICROSCOPE . . Wide field binocular for fabric thread counting, inspection

Source: GEORGE SCHERR CO.
202 Lafayette St., New York 12, N. Y.

The operator of this new microscope observes the stereoscopic three-dimensional image of a sample of fabric held in a template in the base. At the same time he manipulates a pointer by means of a precision screw to make a count of the threads in the sample. The pointer assembly is known as the Owtermann attachment.

The microscope is available in a Model A with two pair of interchangeable eyepieces for magnifications at 4.25X and 6.50X for fields of view measuring 1.7 and 1.2 inches. It is supplied in a Model B with three pair of eyepieces for 10X, 20X and 30X magnification and 65, 43 and .82-in. fields of view. Focal distances are 8⅝ and 4½ inches. Three templates with ¼-, ⅛- and 1-in. square openings complete the assembly.

▼ DIRECT!—Identify by IEN-10466 if you write the maker ▼

VISE . . Hand operated unit for application on a machine table

Source: CHICAGO TOOL & ENGINEERING CO.
8406 S. Chicago Ave., Chicago 17, Ill.

Falmgren No. 10 is a non-rise with 2¼-in. jaws measuring 1⅝ in. in depth and opening to 3½ inches. The vise is designed for use on a machine table to hold work as for drilling. Its removable jaw is grooved to secure cylindrical work vertically. Overall height is 2½ inches. Hold-down lugs are integral.

▼ DIRECT!—Identify by IEN-10467 if you write the maker ▼

THERMOMETER . . Spirit filled glass in metal carrying case, 6 in. in length

Source: WESTON ELECTRICAL INSTRUMENT CORP.
612-16 Frelinghuysen Ave., Newark 5, N. J.

Thermicator is a new thermometer to carry in a pocket and to use in temperature measurements between minus 30 and plus 120 deg. F. The metal case is open at both ends and is fitted with a spring that holds the thermometer in place so it will not fall out. Diameter is ¾ inch. Scale divisions read to 2 deg. units within the limits named.

All Makes of Their And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 59

▼ DIRECT!—Identify by IEN-10468 if you write the maker ▼

Announcing
ZIP-GRIP*

Self-Locking
SET SCREWS
and ADJUSTING SCREWS
LICK VIBRATION—LOCK INSTANTLY, IN ANY GIVEN PLACE

First to have Triple Locking Action:
1. INTERFERENCE FIT
2. TENSION
3. REGULAR SET SCREW LOCKING ACTION

ZIP-GRIP is also the first Self-Locking Set Screw to lock without supplementary devices or deformed threads.

Write for new ZIP-GRIP Data Sheet giving detailed description and application data. Also send for complete Set Screw Catalog or write us about Special Set Screws, to suit your particular requirements, especially tough service or tricky applications.

MORE PROOF That We Specialize In Solving PUZZLING SET SCREW PROBLEMS

Set Screw & Mfg. Co. SETCO
5 Main St., Bartlett, Ill.

* Pat. Pend.

▼ DIRECT!—Identify by IEN-10469 if you write the maker ▼

New Farval Spray Valve

Write for this FREE bulletin

METERS LUBRICANTS TO SLIDE SURFACES AND OPEN GEARING

BY an ingenious adaptation of the familiar Farval Dualine Valve, either grease or oil is sprayed through a nozzle—onto any desired area, in any amount, at any interval.

The new Farval Spray Valve can be added to a regular Farval Dualine Lubrication System wherever compressed air is available—or a complete system of spray valves may be installed, served by either manual or automatic pumping unit.

Farval Spray Valves have been thoroughly tested in service on a wide variety of machines and equipment, supplying lubricant efficiently, economically, and safely to open gearing, slide surfaces and other areas where Farval closed systems are not readily adaptable.

For full descriptions with diagrams, get Farval Bulletin No. 60. The Farval Corporation, 3258 East 80th Street, Cleveland 4, Ohio.

FARVAL
CENTRALIZED SYSTEMS OF LUBRICATION

▼ DIRECT!—Identify by IEN-10470 if you write the maker ▼

Whether you need standard drives or special units, Cleveland can serve you.

Prompt service on dependable worm gearing

CLEVELAND offers a complete line of worm gear sets and speed reducers, including the popular Air-Cooled Speed-ares, to meet the needs of any machinery or equipment builder or user.

Representatives in all major industrial centers are at your service.

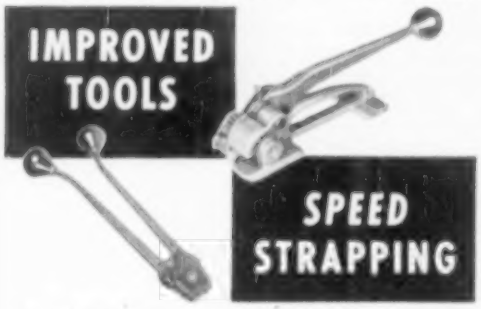
Write for the latest Cleveland catalog, indicating your requirements. Your inquiry will receive prompt attention.

The Cleveland Worm & Gear Company, 3258 East 80th Street, Cleveland 4, Ohio

CLEVELAND Worm Gear Drives

▼ DIRECT!—Identify by IEN-10471 if you write the maker ▼

IMPROVED TOOLS



SPEED STRAPPING

Typical examples of Signode's continuing leadership in steel strapping are these two new improved box strapping tools.

The Signode Sealer, left, is exceptionally lightweight and easy to handle. Designed for 5/16" to ½" strapping. Ideal for general shippers.

The Signode ST Stretcher, right, has perfect balance for minimum operator fatigue. Its fast take-up is just right for high tension applications. Sized for ⅜" to ¾" strapping.

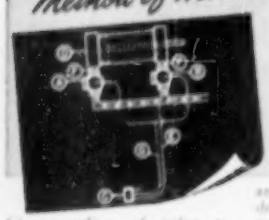
FOR FULL DETAILS — MAIL COUPON

Signode Steel Strapping Co.
2611 N. Western Ave., Chicago 47, Ill.
Please send complete information on your box strapping Sealers and ST Stretchers — also facts about Signode's 6-Point System of Shipment Protection.
Name _____ Title _____
Company _____
Address _____
City _____ State _____

THIS SEAL MEANS SIGNODE **SECURITY IN SHIPPING**

▼ BRIEFITT—Identify by IEN - 10472 if you write the maker ▼

How to Boost Production with new Method of Mounting Ross Valves



- Faster Machine Speeds
- Less Air Consumption
- Economical Installation
- Easier Operation

Close-coupling of valve to cylinder! That's the story behind the remarkable success of the new *Ross In-Line Master Valve*.

Users claim several important advantages. By placing the master valves (A & B) at the cylinder (D), air supply and exhaust are speeded up appreciably. This in turn permits faster movement of the cylinder piston and materially increases production.

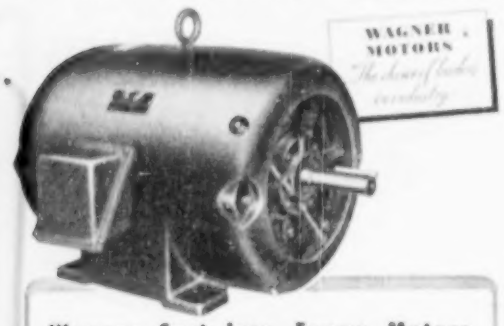
At the same time, the close coupling means that two lengths of large diameter piping between valve and cylinder – pipes continually filled and exhausted with non-productive air – are replaced by two short connecting pipes (F). The resultant saving in air with every movement of the piston considerably reduces operating costs.

Operation is by a small, conveniently located 3-way pilot valve (C). It is supplied through tubing (E) and connected to the master valves by tubing (G). It may be mechanically, manually or electrically controlled. Hand or foot operation is greatly facilitated by the use of the smaller, more easily actuated pilot model.

For complete details, ask for Bulletin No. 302.

ROSS OPERATING VALVE COMPANY
130 E. HOLDEN GATE AVE., DETROIT 3, MICHIGAN

▼ BRIEFITT—Identify by IEN - 10473 if you write the maker ▼



Wagner Cast Iron Frame Motors

resist the damaging action of acids, fumes, moisture and other destructive elements

Wagner cast iron frame motors are built to provide continuous resistance. They feature well impregnated, special varnish treated windings protected by totally enclosed fan cooled construction . . . a cast iron gasket sealed conduit box . . . and delta plugs in the endplates for easy removal of any condensation from inside the motor.

These motors are available in ratings from 5 to 250 horsepower, in both standard (type EP) and explosion proof (type IP) designs. Write for Complete Information.

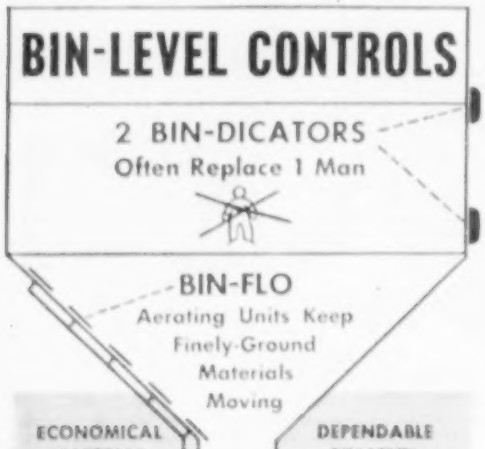
Wagner Electric Corporation
6414 PLYMOUTH AVENUE
ST. LOUIS 14, MO.

ELECTRICAL EQUIPMENT AND AUTOMOTIVE BRAKE PRODUCTS

▼ BRIEFITT—Identify by IEN - 10474 if you write the maker ▼

BIN-LEVEL CONTROLS

2 BIN-DICATORS
Often Replace 1 Man



THE BIN-DICATOR CO., 13946 Kercheval, Detroit 15, Mich.

Please send new 20-page catalog giving complete information and specifications on BIN-DICATORS. Also please send information on BIN-FLO Aerating Units.

Name _____
Address _____
City _____ Zone _____ State _____

▼ BRIEFITT—Identify by IEN - 10475 if you write the maker ▼

TACHOMETER . . With recording chart, reads and records, 30 to 48,000 rpm.

Source: ZERNICKOW CO.
13-17 Park Row, New York 7, N. Y.

Hand Tachograph is a new assembly of the company's hand tachometer and a strip-recording chart mechanism with spring-motor drive, scale-making discs, time marker and speed-recording pen. The tachometer can be fitted with a 6-in. disc to read in fpm. as well as in rpm. Two drive speeds can be selected for the chart. Overall dimensions are 10¾ by 3¼ by 4½ inches. A carrying case is available.

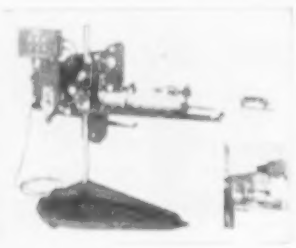
The tachometer employs a centrifugal mechanism to move the pointer over the 3-in. dial. Selection gears controlled at a knurled ring on the housing barrel provide for selection of speeds in three range combinations. These are 30 to 12,000 rpm. in five steps, 60 to 24,000 rpm. and 120 to 48,000 rpm.

The recorder operates its disc scale markers, time marker and pen over a 2¾-in. strip chart driven by the spring motor. It is mounted on a base with the tachometer and connects through the rear of the housing.

▼ BRIEFITT—Identify by IEN - 10476 if you write the maker ▼

SEALING . . Hole punch mechanism for heat sensitive bag closing machine

Source: AMSCO PACKAGING MACHINERY INC.
31-33 48th Ave., Long Island City 1, N. Y.



New design of the company's sealing machine for filled bags made of heat-sensitive plastic includes a hole-punching mechanism. This unit includes an adjustable trip to center the hole in bags of varying width. The hole can be positioned through the seal so the bag can be hung up or below the seal for ventilation.

Model S is geared to operate at 480 ipm. in standard design. Range that can be specified is 200 to 840 ipm. Bench and floor-stand designs take 52 by 24 in. of floor space. Standard sealing rolls include knurl-bead-crimp and flat-bead, both ⅝ in. in height, knurl-crimp ⅝ in. and flat 1 in. in height. Various attachments are available for given types of work. Heat is supplied electrically with thermostat control.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

FIND WHAT YOU WANT?
Ask us if you do not find it in the Index, Page 110

▼ BRIEFITT—Identify by IEN - 10477 if you write the maker ▼

The Most Versatile Chuck You Can Buy!

Buck ADJUST TRU CHUCKS

1. [illegible] Precision with small chuck speed!
2. Easy and Step-Collet functions at small chuck cost!
3. How a few chucks and mandrels can handle Adjust and Mandrels!
4. Compensate for spindle run-out to lengthen useful life of old machines!

FIRST CHUCK ADVANCE IN 50 YEARS!

Operating principle is simple, but simple. Precise "A" jaws (top) or [illegible] work like any other chuck. A opened across "B" bring work to dead center to [illegible] compensated jaws can grab work within .005" to 5 times [illegible] Chuck set [illegible] can [illegible] hundreds of different parts without changing set-ups!

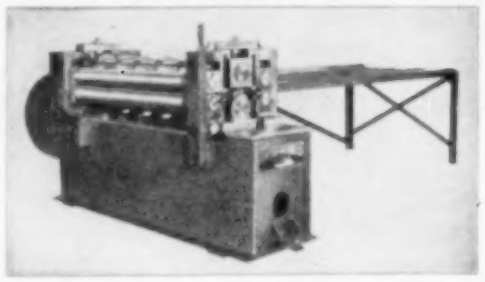
Buck Adjust-Tru Chucks are manufactured on any production train. Bring new speed in setting to dead [illegible] plus spindle collet capacity from [illegible] by .001, plus step collet capacity of ½" to 5" by .001 (on 6" [illegible]). Do work of special equipment with $250 to $1,000 *at indefinite cost, back prices—in much less time.* Send for literature today.

BUCK TOOL CO., 1116 Schippers Lane, Kalamazoo, Mich.

▼ BRIEFITT—Identify by IEN - 10478 if you write the maker ▼

RAFTER GANG SLITTER

For Lasting Accuracy



With or without feed rolls for the slitting of varied widths and gauges of metal. Machined and accurately ground cutter shafts made of high-grade carbon steel. Machine cut gears. Generous size bearings. Vertical adjustment of upper spindles allows regrinding of double edge type cutters. By removing two bolts, the end housing is drawn from cutter shafts permitting quick change of cutters. Spacer collars machined and marked for particular job, easily and simply removed for change over of various slitting widths. All features represent accuracy, speed and economy.

RAFTER MACHINE COMPANY, INC.
SINCE 1917
249 Stephens Street Belleville 9, N. J.
COLD ROLL FORMING MACHINES
& PRESS BRAKE FORMING DIES

▼ BRIEFITT—Identify by IEN - 10479 if you write the maker ▼

FAST — EASY
PERMANENT
WIPE-ONS
for
STAMPINGS, ENGRAVINGS, LETTERING, DESIGNS, SYMBOLS.

Lacquer-Stik

Just RUB IN . . . WIPE OFF . . . FINISHED!

- No Mess. No Waste. No Brush.
- Expands and contracts with parts.
- Withstands temperatures to 500°F.
- Does not smear when handled.
- Saves Time, Labor, Materials.

For Metals, Plastics, Ceramics, Wood and all smooth surfaces.

Lacquer-Stik is a highly specialized paint compound and prepared solely for use as a wipe-on. It is semi-solidified in stik form for quick, convenient use. But soon hardens and becomes permanent.

Our Research Laboratories will study your problem and make recommendations on any parts you submit without obligation.

Samples and Literature Upon Request

LAKE CHEMICAL CO., 3060 West Carroll Ave., Chicago 12, Ill.

▼ BRIEFITT—Identify by IEN - 10480 if you write the maker ▼

A Pure Metallic Lead Base Sealing Compound

A Perfect Compound for All Types of Threads and Press Fits

Water — Threaded and Flanged pipe connections for oil, kerosene, gasoline, alcohol, chemicals and steam, water.

Laboratory — [illegible] and chemical [illegible]

Marine — [illegible] and bottom on packing and [illegible] and [illegible] shafts.

Firemen — [illegible] and valves. Prevents [illegible] with changes in temperature and pressure.

Not [illegible] liquid on [illegible] for [illegible] and pipes.

I. H. GRANCELL
1601 E. MADEAU ST., LOS ANGELES 1, CALIFORNIA

▼ BREVITY—Identify by IEN-10481 if you write the maker ▼

NICKEL SILVER

SHEETS
WIRE
TUBES
RODS

in compositions ranging from 5% to 30% nickel

49280

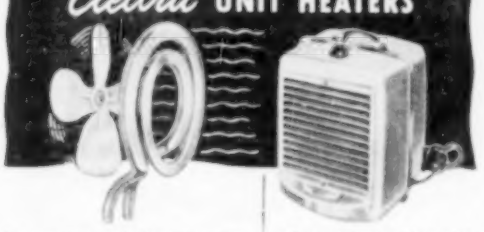
The AMERICAN BRASS COMPANY
Waterbury 20, Conn.

ANACONDA

▼ BREVITY—Identify by IEN-10482 if you write the maker ▼

FOR "EXTRA" COMFORT HEAT
At Low Cost

CHROMALOX *Blower-type*
Electric **UNIT HEATERS**



Whatever your comfort heating requirements, there's a CHROMALOX Electric Unit Heater that fits the picture exactly. Portable, mounted, built-in—blower-type, natural convection or radiant types—½ to 40 KW. All with famous, long-lasting CHROMALOX totally-enclosed heating elements. CHROMALOX quality construction throughout. Available with automatic and manual controls.

- Enclosed, Shockproof Chromalox Heating Element.
- Quiet, Dependable.
- Long Service Life.
- Easy, Low Cost Installation.
- A Size and Type for Every Requirement.

WRITE FOR CATALOG 50

If shown complete line of Unit Heaters of portable, mounted and built-in wall types.

EDWIN L. WIEGAND CO., 7606 THOMAS BLVD., PITTSBURGH 8, PA.
See Chromalox Electric Heating Advertisement, Page 5

CHROMALOX
ELECTRIC HEATING AT ITS BEST!

▼ BREVITY—Identify by IEN-10483 if you write the maker ▼

DeZURIK ECCENTRIC PLUG & ECCENTRIC SEAT CLOSE DEAD SHUT OR OPEN FULL WITH QUARTER TURN

FULL FLOW TO NO FLOW
AT THE TWIST OF A WRIST

Whatever the flow,
DeZurik Easy-Operating Plug Valves open *full*, or close *dead-shut* at the twist of a wrist. An easy quarter-turn does it, without binding or friction—and without a trace of leakage. There's a leak-free DeZurik Valve for every service, either manual or remote-operated. Our free catalog tells the whole story.

De ZURIK SHOWER CO.
SARTELL, MINNESOTA

▼ BREVITY—Identify by IEN-10484 if you write the maker ▼

CONVEYING . . Portable belt unit to unload hopper bottom cars on track

Source: GEORGE HAISS MFG. CO.
Canal Pl. & 143rd St., New York 51, N. Y.

Model 501 is a new assembly of coated 24-in. rubber belt with drag chains on its two sides in a wheel-equipped frame to position crosswise above a railroad track under a hopper bottom car. The belt is engine driven in standard assembly and rates to 5 ton per minute.

The wheels are mounted on a supporting frame from which the belt frame is suspended by cables leading to a hand-operated winch. Cranking the winch raises or lowers through 15 inches. The assembly is about 19 ft. in length by 5 ft. in overall width. Clearance height is maximum at 7 ft. between ground and engine.

▼ BREVITY—Identify by IEN-10485 if you write the maker ▼

MACHINING . . Contract service to size, drill, thread carbide parts

Source: METHOD X CO.
Cayuga & American Sts., Philadelphia 40, Pa.

Send your prints for quotations

Carbide blanks, in which holes are to be drilled and threaded and over which dimensions are to be brought within close limits, can be sent to the company for application of the processes it has developed to do this particular work. Holes can be drilled and threaded to ⅝ inch. The company supports a special machine it has developed.

▼ BREVITY—Identify by IEN-10486 if you write the maker ▼

GRINDING . . Turn table stand assists in finishing steel dies, molds

Source: PRATT & WHITNEY DIVISION
49 Charter Oak blvd., West Hartford 1, Conn.

Di-Ro Stand is a new rectangular unit measuring 24 by 24 by 36 in. with a turn table on the top and a bracket to take the company's Keilerflex flexible-shaft machine. The turn table rides a heavy-duty thrust bearing and will handle dies weighing to 3 ton.

A clamp can be secured to hold against rotation. Otherwise the table is free to turn so the operator can stand at one location to complete a finishing job. The machine bracket swings through 180 deg. for freedom in positioning the driving motor as the work proceeds. Inside the housing is a storage compartment for tools and accessories.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN-10487 if you write the maker ▼

SAFETY EQUIPMENT FOR ALL INDUSTRIES

IPCO LAMP CHANGERS

PRACTICAL • TIME SAVING • PREVENTS PERSONAL INJURIES

FOR CEILINGS, SIDE WALLS, ELECTRIC SIGNS, ETC. • HEAD ADJUSTS TO ANY ANGLE

Designed to remove and replace lamp bulbs in high and out of way places . . . Works like human hands on the end of a pole . . . Handles lamps up to 500 watt; pole lengths 6', 12' and 18'.

Write for Bulletin F-1150

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2801 N. FOURTH STREET • PHILADELPHIA 33, PA.

▼ BREVITY—Identify by IEN-10488 if you write the maker ▼

OUR SAVINGS ON LABOR ALONE WILL PAY FOR THIS MACHINE IN 8 MONTHS TO A YEAR!

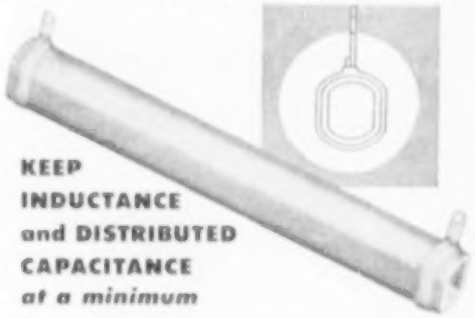
Manufacturers are often surprised when they discover the great savings in time, labor and materials made possible with modern packaging machinery. For today's models feature greater speed and production flexibility while requiring a minimum of supervision. Economies result from more efficient use of wrapping materials. Change-over time for different sizes is less than ever—saving valuable man-hours.

You may achieve important economies through modernizing your packaging methods. Why not consult your nearest "PACKAGE" representative? He can offer you the widest variety of machines made—a model for virtually every wrapping need.

Write for leaflet "Packages that Sell".

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS

▼ BREVITY—Identify by IEN-10489 if you write the maker ▼



KEEP INDUCTANCE and DISTRIBUTED CAPACITANCE *at a minimum*

Putting the opposed windings on a *flatted* core is a Ward Leonard *exclusive* in non-inductive resistors.

The flats help make sure that the crossings of the Ayrton-Perry winding are exactly 180° apart—thus reducing inductance and distributed capacitance to an absolute minimum.

For high watt rating in a given size unit . . . low difference in potential between adjacent turns . . . absence of undesirable high capacitance—specify Ward Leonard non-inductive resistors.

Write for catalog. WARD LEONARD ELECTRIC CO., 33 South Street, Mt. Vernon, N. Y. Offices in principal cities of U. S. and Canada.

WARD LEONARD ELECTRIC CO.
Result-Engineered Controls
RESISTORS • RHEOSTATS • RELAYS • CONTROL DEVICES

▼ BREVITY—Identify by IEN-10490 if you write the maker ▼

We carry a complete stock of all component parts for standard radius and degree roller turn assemblies . . . either overhead or floor types.

Delivery of complete assemblies 2 to 3 weeks.

JERVIS B. WEBB COMPANY
MANUFACTURERS OF OVERHEAD AND FLOOR TYPE CONVEYORS
OFFICES IN PRINCIPAL CITIES
8915 ALPINE AVE.
DETROIT 4, MICH.

▼ BRIEFITS—Identify by IEN-10491 if you write the maker ▼

For 100 or 100,000 call on Stanley!

Complete Stanley facilities for stampings and special hinges are at your service whether you order in lots of a hundred—or a hundred thousand. Get the economy, efficiency, of turning all your requirements from first sketches to finished product over to one reliable source—Stanley! Write now to: **Pressed Metal Division, The Stanley Works, New Britain, Connecticut.**

5 Reasons Why Stanley Is Geared To Give You Better Service:—

1. Complete Production Engineering Service
2. Modern Channel Steel Mills
3. Testing and Research Laboratories
4. Complete Tool-Making Facilities
5. Quality in Control Production
6. Plating, Metallizing and Colored Finishes

STANLEY

New York • Detroit • Los Angeles
Chicago • San Francisco • Seattle

HARDWARE · TOOLS · ELECTRIC TOOLS · STEEL STRAPPING · STEEL

▼ BRIEFITS—Identify by IEN-10492 if you write the maker ▼

Seal Pipe Joints with KEY-TITE

Stops Needless Waste

Pipe joints sealed with Key-Tite cannot leak. Key-Tite is a perfect seal on all lines carrying water, gas, low pressure steam, compressed air, etc. It contains no lead or substitutes and does not affect the taste or odor of potable liquids. Joints are easily opened, too, for it will not freeze in the joint. Stop losing money through leaky pipe joints . . . seal with Key-Tite.

Send for Free Sample
Try Key-Tite in Your Own Plant at Our Expense

KEY Company

KEY COMPANY
2651 McCausland Ave., East St. Louis, Ill.

▼ BRIEFITS—Identify by IEN-10493 if you write the maker ▼

Send Coupon Today for Your FREE Copy

"WHY IT PAYS TO ANCHOR YOUR MACHINES WITH *UNISORB*"

Here's the book that tells you how to

- Avoid destructive floor-drilling with UNISORB machine anchoring . . . the modern way that needs no bolts, no lag screws.
- Eliminate 60%-85% transmitted machine noise and vibration.
- Achieve a safe, dependable machine mounting that lasts for years and years *with no maintenance.*
- Save time, expense and confusion when installing new machinery or repositioning present machinery.

The FELTERS Co.
210-1 SOUTH ST.
BOSTON 11, MASS.

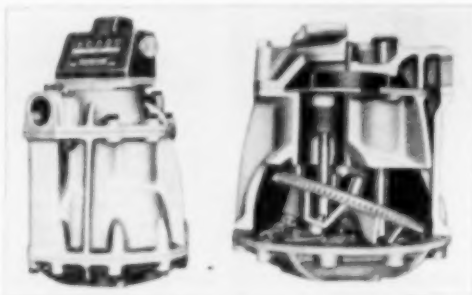
Gentlemen:
Please send me free copy of "Why It Pays to Anchor Your Machines with UNISORB."

NAME
COMPANY TITLE
STREET
CITY & STATE

▼ BRIEFITS—Identify by IEN-10494 if you write the maker ▼

METER . . Measures liquid flow by positive displacement, to 110 gpm.

Source: BOWSER, INC.
1302 E. Creighton Ave., Fort Wayne 2, Ind.



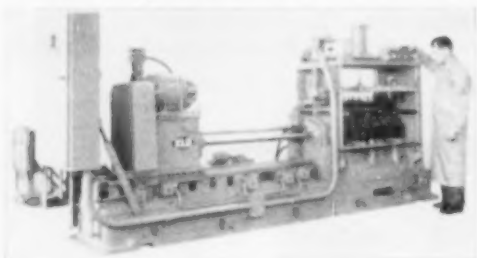
Five pistons in this new 2-in. design in the company's Xacto fluid meter line are assembled vertically in a cylinder block under a central valve. Three piston rods extend downward to ride upon ball supports in a toothed central plate that rocks on a toothed internal ring in the meter base. The center of the plate rides a ball support that is adjustable to lengthen or shorten the piston stroke and thus displace more or less liquid per cycle of meter operation.

Interior working parts are made of stainless and carbon steel. The cover, cylinder block and body are cast iron, bronze or stainless steel as specified. Three sizes, old and new, have maximum capacity of 15, 60 and 110 gpm. A Model H counter-type dial is standard. Other types, including predetermining controls and printing designs, can be supplied on order. Pipe diameter over the line of sight is about 9½ to 11 inches.

▼ BRIEFITS—Identify by IEN-10495 if you write the maker ▼

BORING . . Special machine to line bore bearings in engine block

Source: EX-CELLO CORP.
1202 Oakman Blvd., Detroit 32, Mich.



Two boring bars apply in a motor-driven hydraulic-feed head in this new special horizontal boring machine. One bar mounts the cutters for the camshaft bearings. The other bores the crankshaft bearings. Both are rigidly supported to assure alignment. The engine block is moved into position by the operator and is clamped when he presses a "start" button.

The machine moves through its cycle automatically, releasing the work when the boring is completed and the bars have been retracted. The assembly is representative of equipment the company is prepared to build to specification. It will handle 25 to 35 engine blocks per hour.

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BRIEFITS—Identify by IEN-10496 if you write the maker ▼

NEW Bulletin 646 Manual Transformer-Type Reduced Voltage Starter

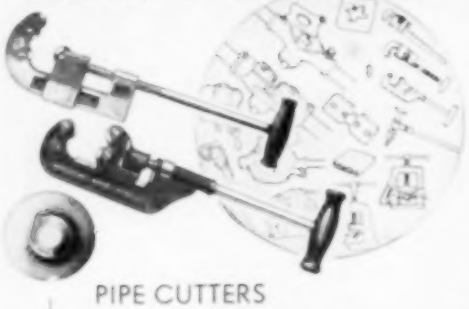
Bulletin 646 Reduced Voltage Starter

Here is the first gallbinding improvement in manual transformer-type starters in twenty-five years. Bulletin 646 motor starters have an adjustable time delay which prevents careless operators from switching the motor too quickly to full running voltage. It is available in four sizes from ½ hp. 220-440-550 v. to 250 hp. 440-550 v. for 25, 50, and 60 cycles. Write for descriptive bulletin. Allen-Bradley Company, 1312 South Second Street, Milwaukee 4, Wis.

ALLEN-BRADLEY
quality
MOTOR CONTROL

▼ BRIEFITS—Identify by IEN-10497 if you write the maker ▼

ARMSTRONG BROS.
Better PIPE TOOLS



PIPE CUTTERS

"ARMSTRONG BROS." Three Wheel and Standard wheel and roller Pipe Cutters are quality cutters throughout . . . built to give years of good service.

"ARMSTRONG BROS." drop forged Pipe Cutters are built for lifetime service with 1-piece drop forged steel heat treated body and a replaceable hardened steel nut to take up the wear and thrust of handle screw. Used either as 1-wheel (with 2 rollers) or 3-wheel (for close quarters).

"ARMSTRONG BROS." Knife Blade Cutter Wheels are machined from special alloy tool steel properly heat treated. They cut rapidly and easily, hold their keen edge.

Write for Catalog

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
5241 W. ARMSTRONG AVENUE • CHICAGO 30, ILL.

▼ BRIEFITS—Identify by IEN-10498 if you write the maker ▼

B.F.Goodrich

Let this man analyze your tire and wheel problems

He's impartial—unbiased—because he has the ONLY COMPLETE LINE

TW TIRE AND WHEEL ANALYSIS PLAN will cut your costs

You can save up to half of your industrial tire and wheel costs. The local B. F. Goodrich man who specializes in such service will, without obligation, survey your operation, study loads, hauls, equipment, floors and hauling surfaces. He will then recommend the best type, size, tread and compound for your work. He will make suggestions on tire care and maintenance.

His recommendations are impartial because only B. F. Goodrich offers a *complete* range of types, tread designs and compounds. You have 14 types of tires, 7 different tread compounds and a full range of sizes. Mail the coupon now and start saving.

A similar service is available for manufacturers of industrial hauling equipment.

B.F.Goodrich

The B. F. Goodrich Co.
Department TW-74
Akron, Ohio
Please give me additional information on your new Tire and Wheel Analysis plan.

Name
Title
Company
City State

▼ BREFITS—Identify by IEN-10500 if you write the maker ▼

SERIES C.V. VALVES

For air, water and low pressure hydraulic service.

Available in nearly 300 different valve models.

Sand cast aluminum alloy body construction makes the JLE C. V. Valve extra LIGHT WEIGHT, yet provides high tensile strength and greater durability.

Here is the most compact, most adaptable valve of its kind on the market! JLE also makes a complete line of high-quality, low-cost air cylinders.

Write for complete information.

JAMES L. ENTWISTLE CO.

431N CHURCH STREET • PAWTUCKET, RHODE ISLAND

▼ BREFITS—Identify by IEN-10501 if you write the maker ▼

Greater capacity in existing conduit with DENSHEATH small diameter wire

DENSHEATH*

(Type TW) Thermoplastic covering

will not support combustion. Resists acids, oil, alkalies, moisture. Easy to pull, resists abrasion. Code-approved for 600 V., 140°F.

Write for Building Wire Catalog C-67
Anaconda Wire & Cable Company,
25 Broadway, New York 4, N. Y.

the right wire for the job **ANACONDA** WIRE AND CABLE

*Reg. U. S. Pat. Off.

▼ BREFITS—Identify by IEN-10502 if you write the maker ▼

KEEP TRAFFIC LANES OPEN

For Faster Material Handling

An M-B Industrial Marker offers an easy way to maintain clear aisles for free movement of traffic. Open traffic lanes help you speed up material handling and promote plant safety—all for greater efficiency, less absenteism from accidents, increased production and increased profits. Write now for M-B Industrial Marker bulletin.

MEILI-BLUMBERG CORPORATION
BOX 155, NEW HOLSTEIN, WIS., U. S. A.

MODEL S-P
SAFETY-LINE MARKER
Marks close to walls and around obstructions. Can be used on portable or point services.

MB **INDUSTRIAL MARKER**

▼ BREFITS—Identify by IEN-10503 if you write the maker ▼

LUBRICATING . . Spray equipment meters oil or grease to open surfaces

Source: **FARVAL CORP.**
3249-53 E. 80th St., Cleveland 4, Ohio

Open gearing, wire surfaces can be supplied with measured amounts of oil or grease by addition of a new Spray Valve to the company's regular Dualine equipment where compressed air is available or by installation of one or more of the valves and mantles served by a shop air line and a manual or automatic lubricant pump. The valve itself is a new adaptation of the Dualine valve to which the mantle and an inlet air connection have been added in new construction.

Lubricant supply from the pump connects at two points on the valve body for alternate flow depending on the position of the internal piston. Movement of the piston by lubricant pressure opens and closes the air and lubricant delivery lines so no air is lost and so there is no drip at the end of a delivery interval in operating equipment.

▼ BREFITS—Identify by IEN-10504 if you write the maker ▼

STRIPPING . . Clear liquid solvent loosens paint, varnish for removal

Source: **LOWEBCO INC.**
1523-27 E. 53rd St., Chicago 15, Ill.

Eliminates need for scraping

Wilsolve is a new non-inflammable liquid to spread over a surface from which paint or varnish is to be removed. It is painted on the surface, is worked up with steel wool and then is removed with a squeegee or cloth. It will not raise wood grain, can be used on furniture as well as on floors. A gallon is sufficient for a 200 sq. ft. area.

▼ BREFITS—Identify by IEN-10505 if you write the maker ▼

PACKAGING . . Filling machine for liquids into ½ to 5 ounce bottles

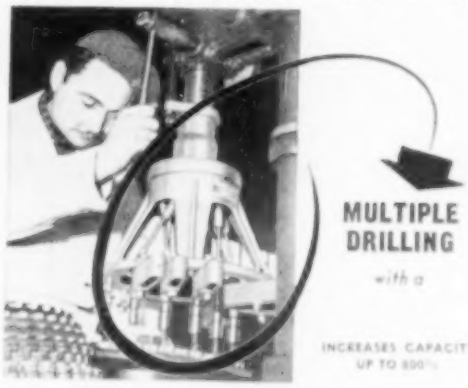
Source: **KOHRS MACHINE CO.**
814-18 W. 1st St., Hutchinson, Kan.

New machine is available to meet specified requirements in filling liquids into bottles holding ½ to 5 ounces. The machine will handle the ½-oz. size at one per second. Assembly is in a table housing that measures 40 by 60 inches. Liquid is handled by a motor-driven pump.

Bottles are started right-side-up on an unscrambling table from where they feed through a disc to line up in single file for passage under the filling head.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREFITS—Identify by IEN-10506 if you write the maker ▼



ADJUSTABLE TO ANY HOLE PATTERN . . . FITS ANY DRILL PRESS

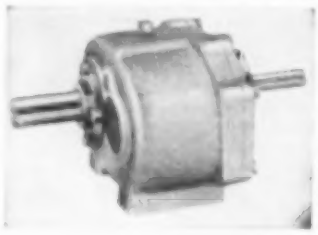
If your production requires drilling from 2 to 8 holes in a work piece, a MULTI-DRILL will cut costs and speed output up to 800%. The MULTI-DRILL is universally adjustable to any hole pattern—is compactly built to permit easy, unhampered operation with drill jigs or other special fixtures. Ruggedly built to take the wear and tear of high production work, the MULTI-DRILL will handle your long and short run multiple drilling jobs with ease—and economy. The MULTI-DRILL will drill on hole centers as close as ½"—handle drill sizes up to ⅝" in steel. Special adaptations available.

There is a Commander MULTI-DRILL Distributor in your area. Write for his name, literature and complete details.

COMMANDER MFG. CO.
4218 WEST KINZIE ST. CHICAGO 24, ILLINOIS

Product of *Commander* — Builder of the *Commander Tapper*

▼ BREFITS—Identify by IEN-10507 if you write the maker ▼



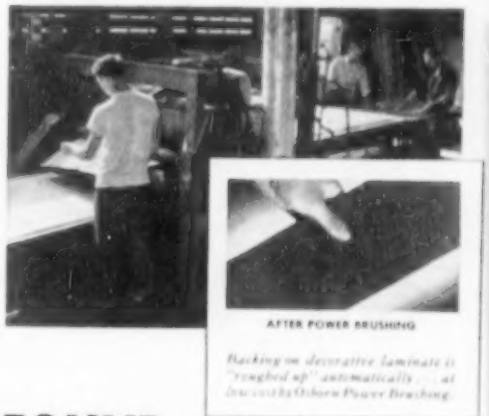
2-speed automatic TRANSMISSION

. . used to supplement constant-speed and multi-speed motors . .

. . with the advantages of providing broader range of speeds, and special ratios not obtainable electrically . . In the five horsepower (illustrated) model, with a 1750 rpm input speed, the low limit of reduction is 6.31 to 1 but any pre-selected ratio, from direct motor speed to this low limit, is obtainable . . WESTERN Two-Speed Automatic Transmission are built to handle 5, 10, 15 20, 25 and up to 50 horsepower motors . . *Send for complete information.*

up to 50 h. p. **WESTERN TRANSMISSIONS**
WESTERN MANUFACTURING CO. 1400 SOUTH—DETROIT, MICHIGAN

▼ BREFITS—Identify by IEN-10508 if you write the maker ▼


AFTER POWER BRUSHING

Backing on decorative laminate is "roughed up" automatically . . . at low cost by Osborn Power Brushing.

FOUND ten million tiny claws to scratch its back automatically

PERFECT bonding . . . the absolute requirement wherever quality materials are cemented together, counts heavily on proper surface pre-preparation of mating members. Adjoining surfaces must be precisely finished with even, exacting "roughness" into which the bonding cement can key, and also be completely clean of loose particles.

To achieve correct and complete uniformity in the bonding surface at low cost, this leading manufacturer of decorative laminate sought to find a way of mechanically roughing the back of plastic sheets . . . to eliminate manual operations. The problem was solved by Osborn Power Brushing . . . industry's most versatile finishing tool.

As shown above, unit sections seven feet long are now taped together to form a continuous strip and fed through the brushing machine at a rapid rate of speed. Millions of sharp steel wire ends of an Osborn Heli-Master® power brush rotate at 1200 rpm, against the back, thus cutting or roughing 30 microscopic grooves to which bonding cement can anchor. A second brush, an Osborn Master®-Strip Rotary Brush, then efficiently cleans the loose dust left by the roughing operation.

Whether your work is roughing or precision-finishing parts . . . cleaning or scrubbing . . . it's likely that it can be done *at lower cost*, with new, improved Osborn brushing techniques. Why not have an Osborn Brushing Analyst demonstrate how you can better the quality of your products, simplify your production. Simply call or write *The Osborn Manufacturing Company, Dept. 360, 5401 Hamilton Avenue, Cleveland 14, Ohio.*

YOU CAN IMPROVE FINISH AND CUT COSTS BY BRUSHING

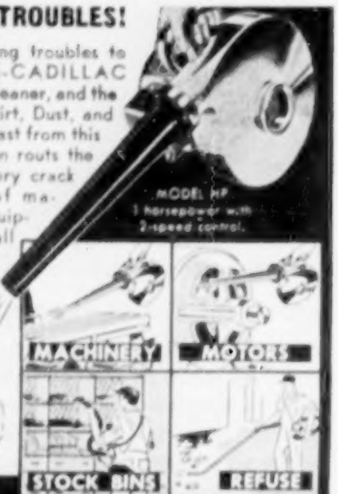
LOOK FOR THE NAME **OSBORN**

RECOGNIZED EVERYWHERE FOR THOROUGH APPLICATION ENGINEERING

▼ BREVITY—Identify by IEN-10510 if you write the maker ▼

AIR YOUR TROUBLES!

Tell your cleaning troubles to a CLEMENTS-CADILLAC blower-suction cleaner, and the battle against Dirt, Dust, and Grit is won. A blast from this powerful weapon routs the enemy from every crack and crevice of machinery and equipment. Use it for all hard-to-get-at cleaning jobs.



SAVE TIME + MONEY PREVENT DAMAGE TO MACHINERY WITH THE . . .

CLEMENTS CADILLAC

Made in 5 models with attachments for every cleaning job.

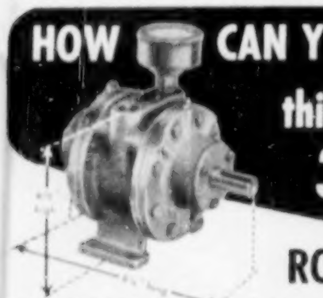
PORTABLE COMBINATION BLOWER-SUCTION CLEANER

CLEMENTS MFG. CO.
6620 S. NARRAGANSETT AVE. CHICAGO 38, ILL.

ASK YOUR MILL SUPPLY DEALER OR WRITE US FOR DATA

▼ BREVITY—Identify by IEN-10511 if you write the maker ▼

HOW CAN YOU USE this GAST 3 h.p. ROTARY AIR MOTOR?



This style for flange mounting.

On your present products — or those now being designed — you may gain outstanding advantages by using this larger GAST No. 8 Air Motor.

Built on the famous GAST rotary-vane principle, the No. 8 delivers variable-speed power with simple valve control. It's explosion proof ... it can't burn out from overloads ... and it delivers a smooth 3 h.p. at 1500 r.p.m. with a weight of only 25 pounds!

Investigate this unique, compact motor now — it may provide unusual advantages for your application.

SEE OUR CATALOG

"AIR MAY BE YOUR ANSWER!"

Write for new bulletin AM-8 and complete specifications — today!

GAST ROTARY — AIR MOTORS · COMPRESSORS · VACUUM PUMPS
GAST MANUFACTURING CORP., 1 Hinkley St., Benton Harbor, Mich.

▼ BREVITY—Identify by IEN-10512 if you write the maker ▼

Try this BRONZE BAR STOCK...for Faster Delivery ...Lower Cost!

N-B-M "Tiger" Bronze stocks are conveniently located for prompt delivery—at prices that will help cut costs in your plant or product.

If you're looking for better bronze at lower costs, get all the facts now on what more and more shop men are using—N-B-M "Tiger" Bronze. It's wear-resistant . . . anti-frictional . . . shock-resistant . . . embeddable . . . easy to machine . . . It has everything you want for longer, lower cost bearing service. Try N-B-M "Tiger" Bronze on your next order. Write today for quotations.

ASK FOR THIS FREE BOOKLET . . .

It describes "Tiger" Bronze characteristics . . . lists stock sizes . . . illustrates the 6 available bar types. It's packed with useful data.

NBM — AMERICAN Brake Shoe COMPANY — NATIONAL BEARING DIVISION

▼ BREVITY—Identify by IEN-10513 if you write the maker ▼

SWITCH . . Single pole, double throw, acts on differential pressure change

Source: BARKSDALE VALVES
4903-7 Santa Fe Ave., Los Angeles 58, Calif.

Variable pressure on one side of the diaphragm in this new Meletron 427 switch acts against an adjustable reference pressure on the other side. The differential between the two operates the single-pole double-throw switch which is rated for safe action in an ac. or dc. control circuit. The switch contacts lie on the reference-pressure side of the diaphragm so an inert gas is required for this pressure. Six assemblies in the line provide adjustable ranges from 3 in. of water to 80 pounds. All are tested to 120 pounds.

Typical applications are in holding liquid level in a closed tank in reference to air pressure above the liquid, sensing a pressure differential in blowing, ventilating, heating ducts. The 2 by 4¼-in. housing is sealed. Two pressure ports have ⅛-in. pipe threads. Wiring is through a ½-in. conduit connector. Weight is 12 ounces. The switch is approved by Underwriters' Laboratories Inc. for its intended service.

▼ BREVITY—Identify by IEN-10514 if you write the maker ▼

CORROSION PROOFING . . Liquid dries to transparent removable coating

Source: NOX-RUST CHEMICAL CORP.
2421-25 S. Halsted St., Chicago 8, Ill.

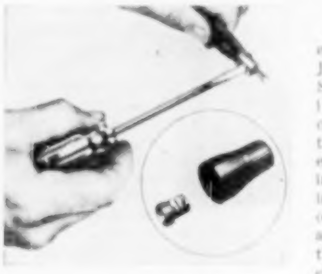
Detail information in 4-page bulletin Nox-Rust 626 and 607

Clear Coat 626 and 607 are two new corrosion-proofing liquids for application on finished metal surfaces by brush, spray or dip. The liquid dries at room temperature to form a transparent tough and flexible coating to protect against corrosion in storage and shipping. Any petroleum solvent or oil can be used to remove the film.

▼ BREVITY—Identify by IEN-10515 if you write the maker ▼

CONNECTOR . . Solderless capped clamp takes up to five No. 14 electric wires

Source: IDEAL INDUSTRIES INC.
1050 Park Ave., Sycamore, Ill.



Stripped ends of electric wires to be joined in this new Set Screw connector are inserted into the clamping sleeve and the set screw is tightened down. Then the insulating plastic cap is threaded into place on the sleeve. Two available sizes rate three or five No. 14 electrical conductors.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

▼ BREVITY—Identify by IEN-10516 if you write the maker ▼

NOELTING Faultless ENGINEERED TRUCK CASTERS CUT HANDLING COSTS

NEW! MEDIUM DUTY INDUSTRIAL CASTER
Cuts Handling Time —Saves Man-Hours

The 900 Series all purpose Truck Caster has heavy pressed steel horn and top plate, corrugated for extra strength. Swivels easily on two full rows of hardened balls rolling around two separate raceways. Choice of six kinds of wheels to suit load (175 lb. to 330 lb.) and floor surface conditions.

All the engineering "know-how" from over half a century of specialized experience is yours in Faultless Industrial Casters—to speed production lines, trucks, portable equipment . . . with less time, waste, effort. Ask for Cat. 15, no obligation.

FAULTLESS CASTER CORPORATION
Dept. IE-11, Evansville 7, Indiana
Branches in Principal Cities—Canada Factory: Stratford, Ont.

▼ BREVITY—Identify by IEN-10517 if you write the maker ▼

Picture of a Free Man! thanks to CESCO's New #600 AIR-FED HOOD

Cesco's New #600 AIR-FED HOOD . . . *Approved by U. S. Bureau of Mines under "Class C" Respirator for use where toxic dust and fumes are encountered. Operating pressure 3 to 9 pounds.*

***FREE** from weighty, rigid hoods*
***FREE** from hoods with narrow, fixed vision!*
***FREE** from toxic dusts!*
***FREE** from harmful abrasive particles!*
***FREE** from fatiguing, noisy air inlets!*
***FREE** to work better, faster, more safely!*

• The exclusive advantages of Cesco's new #600 AIR-FED HOOD are bound to increase worker comfort, safety, and output. It is ideal for lead discing and other grinding operations, light sandblasting, paint spraying, etc. Write for more detailed information or see your Cesco Distributor.

CHICAGO EYE SHIELD CO., 2326 Warren Blvd., Chicago 12, Illinois

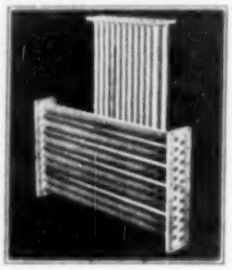
CESCO FOR SAFETY

OFFICES IN Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Detroit, East Orange, Houston, Los Angeles, Montreal, Philadelphia, Pittsburgh, Salt Lake City, Spokane, St. Louis, St. Paul, Toledo, Tulsa

▼ BREVITY—Identify by IEN-10518 if you write the maker ▼

ROME HELICAL-FIN TUBING

Over 90 sizes in Production



Rome extended surface Helical Fin Tubing is a highly efficient — compact surface for heat exchanging work. It is supplied in either straight lengths, coils, or U bends with or without threaded end connections; or it may be used with standard flare connections. It is used for

- Water Cooled Refrigeration Condensers
- Air Cooled Refrigeration Condensers
- Steam Condensers
- Dry Cleaning Fluid Recovery Condensers
- Air Compressor Intercoolers and Aftercoolers
- Oil Coolers for Diesel Engines
- Fan Type Air Heating Coils
- Fan Type Air Cooling Coils
- Fan Type (suspended) Unit Heaters
- Refrigeration Evaporators and Display Case Coils
- Turbine Air Surface Coolers
- Room Heating Convectors (Concealed Radiation)
- Diesel and Truck Engine Cooling Radiators
- Railway Diesel Engine Cooling Systems

Rome Helical-Fin Tubing is used and specified by nearly all large Nationally known manufacturers of heat exchanging equipment

ROME-TURNEY RADIATOR COMPANY

Mfrs. of Refrigeration Condensers — Concealed Copper Radiation Blast Air Heating and Cooling Coils and Other Transfer Equipment

200 EAST FRONT STREET ROME, N. Y.

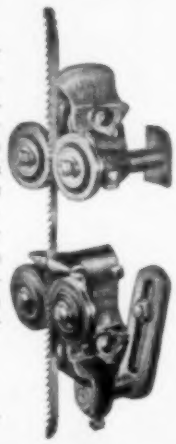
▼ BREVITY—Identify by IEN-10519 if you write the maker ▼

MORE SPEED MORE SUPPORT

PADDOCK BAND SAW GUIDES

Save Labor Cost

With all industries facing "war-time" need of conserving man-power and increasing production, PADDOCK BALL BEARING BAND SAW GUIDES are vitally important! We can give immediate delivery on these steel guides! Paddock Guides are equipped with ball bearing wheels which spin with the blade. Wheels are interchangeable for longer wear. Strong friction-free support means more materials cut — faster cutting — greater safety for workmen—reduction of blade breakage. Write today for circular and prices.



PADDOCK TOOL COMPANY
1418 Walnut Street, Kansas City, Mo.
Guide Makers Since 1920

Paddock BALL-BEARING BAND SAW GUIDES

▼ BREVITY—Identify by IEN-10520 if you write the maker ▼

Because they're years ahead in steam generation . . .

only CYCLOTHERM Trade Mark Reg. *STEAM GENERATORS*

HAVE the REAL ANSWER TO Low GAS and OIL CONSUMPTION

WHAT IS IT? It's the modern scientific discovery of transferring heat at the highest degree of efficiency with a new low in fuel consumption. Principal factors of which are the cylinderized solid flame with its exclusive cyclo-motion power, designed to utilize the full potential of every particle of fuel . . . and the thin layer of air resulting from centrifugal force that's always between the flame and wall of combustion chamber. A combination to produce steam far in excess of conventional standards for measured heating surfaces.

SEND FOR ALL THE BIG REASONS

Learn how the completely automatic Cyclotherm with its unexcelled all-in-one package type features wipe out waste and excess costs. If you are planning a new or replacement boiler installation it will pay you to first get the facts on Cyclotherm.

SIZES available to fit your steam or water load for processing or heating. Low pressure to 200 psi fired with light or heavy oil, gas or combinations.

Without Obligation Write for Bulletin PI-11

CYCLOTHERM CORPORATION
OSWEGO, N. Y.

▼ BREVITY—Identify by IEN-10521 if you write the maker ▼

Courtesy S. C. Lawlor Company, Chicago, Illinois

Floor maintenance machine equipped with neoprene parts to withstand abrasion, oils, grease, scouring powders

Used on any type of floor, this Lawlor machine scrubs the surface, loosens dirt and grime, then draws off dirty water and squeegees the floor bright and clean—all in one operation. It's designed as a quiet, compact unit . . . and built for long, dependable service with key parts made of Du Pont neoprene.

The neoprene-jacketed cable can be dragged over rough surfaces and through oil puddles. For neoprene withstands abrasion and grease. Solid neoprene tires on the wheels assure quiet movement . . . resist deteriorating fluids. And the neoprene squeegees stand up under constant flexing and abrasion.

Perhaps neoprene may help solve your problems involving rubber. Although Du Pont does not make finished neoprene products, we'll gladly help you find a source of supply. E. I. du Pont de Nemours & Co. (Inc.), Rubber Chemicals Division, Wilmington 98, Delaware.

FREE! THE NEOPRENE NOTEBOOK

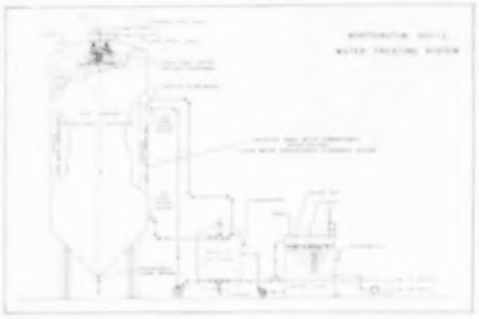
Full of interesting stories. New, unusual applications of neoprene to build new products . . . improve old products . . . reduce maintenance costs. Write today for your free subscription. E. I. du Pont de Nemours & Co. (Inc.), Rubber Chemicals Division D-11, Wilmington 98, Delaware.

NEOPRENE
The rubber made by Du Pont since 1932
DU PONT

▼ BREVITY—Identify by IEN-10523 if you write the maker ▼

WATER TREATING . . Hot process combined with zeolite for boiler water

Source: WORTHINGTON PUMP & MACHINERY CORP.
423 Worthington Ave., Harrison, N. J.



New Zeolite with a styrene base, suitable for operation on hot-treated water, makes it possible to combine hot-process treatment with deaerating and silica reduction in this new water-treatment equipment. Temporary hardness is removed by lime and zeolite. The latter also removes the permanent hardness to 2 ppm. without addition of excess alkalinity.

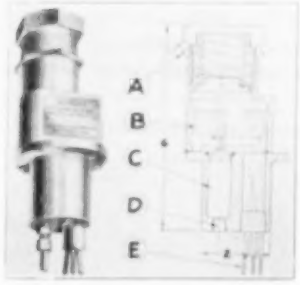
In effect, the zeolite salt regenerant is substituted for soda ash customarily employed in removal of permanent hardness in hot-process equipment. The salt regenerant also replaces most of the phosphate previously used to remove residual hardness. The zeolite is backwashed with clear water and is regenerated with salt solution. The backwash water is maintained at uniform temperature in wash-water compartment.

Bulletin W-212-B7, 8 pages, presents schematic layout with technical information on construction, operation.

▼ BREVITY—Identify by IEN-10524 if you write the maker ▼

SWITCH . . Pressure operated range to 3,000 lb., 15 amp., 110 volt ac.

Source: ALLOY BELLOWS ENGINEERING CO.
933-37 Greyton Road, Cleveland 12, Ohio



Adjusting cap A at the top of this new Bondee switch assembly backs up a pressure spring, can be turned and locked with its nut for switch operation at any pressure to 3,000 pounds. Differential is subject to specification. The spring backs a plunger mechanism operating with the switch B when pressure is applied in the element C through the pressure connection D. Switch leads E are brought out through the opening beside the pressure connection.

The switch is totally enclosed in a housing made of aluminum, brass or stainless steel with overall length at 6 in. and diameter of the center flange at 3 inches. Application can be made in any position to operate with air, gasoline, oil, water, or acids that will not attack stainless steel. Weight in aluminum for the new assembly is about 2 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . *See Page 50*

▼ BREVITY—Identify by IEN-10525 if you write the maker ▼

...You Get Exclusive Extra-Wear Features in

New Heavy-Duty

PIONEER **STANZOIL**®
BLACK NEOPRENE

Coated Canvas Gloves

Those six features mean far more glove service for your money. Heavy-Duty STANZOILS not only wear and wear on heavy-duty jobs, but give real hand protection, extra resistance to oils and acids. And they enable workers to do more work with less effort. Write today for information and prices on this line of Heavy-Duty STANZOIL DuPont neoprene coated canvas gloves. *The Pioneer Rubber Company, 635 Tiffin Road, Willard, Ohio.*

STANZOIL PIONEER

OVER 30 Years OF QUALITY GLOVE MAKING

▼ BREVITY—Identify by IEN-10526 if you write the maker ▼

NEW SQUARE D SAFETY SWITCHES

a few of many features:

- MODERN STYLING is compact and attractive.
- DEADFRONT. Line terminals protected by arc chamber.
- SILVER PLATED current-carrying parts.
- VISIBLE BLADES permit visual checks of switch operation.
- MAGNETIC ARC PLATE adds to high rupturing capacity.
- NON-TRACKING insulation is used in base.

Write for Bulletin 3100, Square D Company, 6060 Rivard Street, Detroit 11, Michigan.

SQUARE D COMPANY
DETROIT • MILWAUKEE • LOS ANGELES

▼ BREVITY—Identify by IEN-10527 if you write the maker ▼

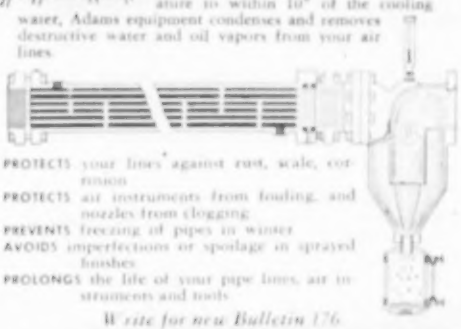
You Can be Sure of Clean Dry Air for your Compressed Air Tools

3500 Gallons

1 YEAR'S water extraction from air lines equipped with Adams Aftercooler and Cyclone Separator.

with **ADAMS** Aftercooler and Cyclone Separator

- Reducing compressed air temperature to within 10° of the cooling water, Adams equipment condenses and removes destructive water and oil vapors from your air lines.



PROTECTS your lines against rust, scale, corrosion
PROTECTS air instruments from fouling, and nozzles from clogging
PREVENTS freezing of pipes in winter
AVOIDS imperfections or spoilage in sprayed finishes
PROLONGS the life of your pipe lines, air instruments and tools

Write for new Bulletin 176

R. P. ADAMS CO., INC. 219 E. PARK DRIVE BUFFALO 17, N. Y.

▼ BREVITY—Identify by IEN-10528 if you write the maker ▼

WRITE FOR THIS BOOKLET...

How Okolite-Okoprene prevents the 11 common causes of cable failure.

- One solid basis for a program of preventive maintenance in any plant is the installation of Okolite-Okoprene insulated wires and cables. A product of 72 years' experience in building the best, Okolite-Okoprene virtually eliminates all the common causes of cable failure.

The long, fault-free service of Okolite-Okoprene is mainly due to two exclusive features: the Okolite insulation, and the bonded Okoprene sheath.

Only in Okonite-made cable will you find insulation containing Wild Up-River Fine Para rubber—applied by the strip process. And the Okoprene sheath—expertly compounded from neoprene with the industry's best-proved formula—provides resistance to weather, oil, chemicals, flame, moisture, corona, sunlight, electrolysis and temperature.

Bulletin IE-2051B lists the 11 principal causes of cable failure in industrial plants, and tells how Okolite-Okoprene overcomes them. Write for your copy to The Okonite Company, Passaic, N. J.

THE BEST CABLE IS YOUR BEST POLICY

OKONITE *insulated wires and cables*

▼ BREVITY—Identify by IEN-10529 if you write the maker ▼

SARCO No. 87
STEAM TRAP

Ideal for outdoor tanks and steam lines. No steam wasted by re-evaporation. Cannot freeze. The same unit, known as The Sarco Thermoton, may be used as an approximate temperature control. Ranges 75 to 125° to 170 to 220°F. Catalog Nos. 250 and 550.

201

SARCO SAVES STEAM

SARCO COMPANY, INC.
Represented in Principal Cities
Empire State Building, New York 1, N. Y.
SARCO CANADA, LTD., TORONTO 9, ONTARIO

IMPROVES PRODUCT QUALITY AND OUTPUT

▼ BREVITY—Identify by IEN-10530 if you write the maker ▼

NOW . . . A POLISHER THAT'S UNIVERSALLY ADJUSTABLE!

Built for use with the Vonnegut Brush-Backed Polishing Head, this unique tool is designed for sanding, smoothing, or finishing contoured patterns—such as mouldings and formed or extruded shapes.

The brush bristles of the head automatically force abrasive strips to conform with and follow the shape of the pattern. The unique spindle stand (adjustable to any angle through 180° from vertical to vertical with head below or above the motor) makes it possible to bring the Vonnegut head into proper relation with a vertical, horizontal or angled surface of any pattern.

Don't hold back. Tell us about your finishing problems, we may have the answer to cutting your costs.

VONNEGUT MOULDER CORPORATION
1827 MADISON AVENUE • INDIANAPOLIS 25, INDIANA

▼ BREVITY—Identify by IEN-10531 if you write the maker ▼

STOP DUSTS

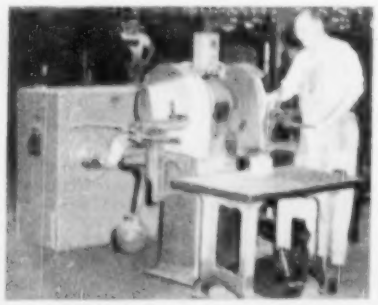
. . . from Any Size Grinder
IMMEDIATELY . . With DUSTKOP

22 Different Dustkops . . . Standard, Pre-tested.
300 cfm to 9,000 cfm
For all kinds of dusts.

That's a Model #1150: takes all the dust from two 18" wheels.

Ask for Catalog 605-2. Describe dust problem for recommendation—no obligation.

AGET-DETROIT CO., Ann Arbor, Michigan



▼ BREVITY—Identify by IEN-10532 if you write the maker ▼

WRENCH . . Cam type tool converts axial hammer blows to torque

Source: H. K. PORTER INC.
48-52 Foley St., Somerville 43, Mass.

Impakdriver is a new tool equipped with a square socket driver in the nose and a striking surface for a hammer at its rear end. Between nose and end is a cam mechanism that converts a hammer blow to torque for nut, bolt or screw tightening or loosening after the driver has been positioned and the body turned in the direction of desired rotation.

The tool alone is known as No. 6M. It lists at $5.20. Various sized for screw-driver head and nut or bolt socket to ⅝ in. add $1.35 to $1.45 each. A set consisting of the tool, four screw-driver heads and three sockets for general purpose application lists at $14.75.

▼ BREVITY—Identify by IEN-10533 if you write the maker ▼

VALVE . . Disc type angle unit is designed for evaporative coolers

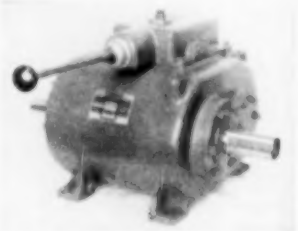
Source: HARTWELL CO.
9022-37 Venice Blvd., Los Angeles 34, Calif.

Type H-9 is a new angle valve in ¼ and ⅜-in. sizes for flow control on evaporative coolers. The unit remains tight against stem leakage in full or partially open position. It seats tightly when closed, sealing by means of its composition rubber disc. The stem is split at the outer end to take a plastic knob.

▼ BREVITY—Identify by IEN-10534 if you write the maker ▼

DRIVE . . Four speed transmission provides an overall ratio of 5 to 1

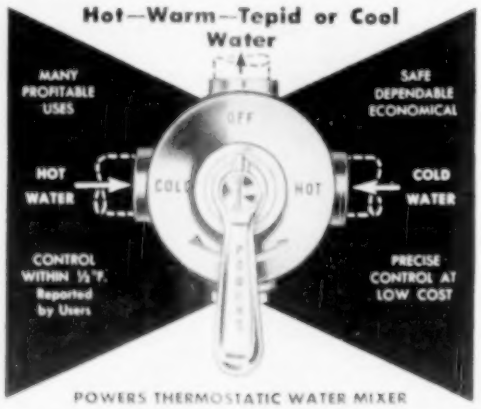
Source: WESTERN MFG. CO.
3402 Scotten Ave., Detroit 10, Mich.



Rating is 20 hp with input speed at 900 rpm. in this new No. 420 transmission. It has been added to the company's line of similar equipment for manual lever-controlled selection of slow, fast and two intermediate speeds in geometric progression of 1.7 to 1. The housing is sealed to enclose the alloy steel heat-treated gears and shafts in their anti-friction bearings.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN-10535 if you write the maker ▼



POWERS THERMOSTATIC WATER MIXER

Can It Solve a Problem for You?

Use a Powers Mixer for any temperature desired and forget it. Temperature remains constant regardless of fluctuations of pressure or temperatures in water supply lines. Failure of cold water supply instantly shuts off delivery.

It is widely used for X-Ray processing, also developing, hydrotherapeutic baths, chocolate coloring and other processes requiring exact control. It is the safest regulator made for shower baths.

CAPACITY—10 gals per min. at 45 psi. Dial diam. 3¼". Pipe connections ½". Temp. Ranges 85° to 115°F., 100° to 125°F., 75° to 170°F. Write for Bulletin 194-H.

LARGER CAPACITIES up to 1000 gpm. available in other types of controls. Write for Cat. 0615-204.

THE POWERS REGULATOR COMPANY
2737 Greenview Avenue, Chicago 14, Illinois
Established 1891 • Offices Over 50 Cities • See Your Phone Book

▼ BREVITY—Identify by IEN-10536 if you write the maker ▼

NO SPRINGS TO BREAK in the *Nutting* JACK IT'S ALWAYS DEPENDABLE

The Nutting Jack is the ONLY jack operated entirely by gravity and leverage. With no springs to break, there is no danger of your whole Jack-Skid system suddenly being put out of service.

One lift truck and two dead skids cost about the same as two Nutting jacks and twelve sensitive skids. That's one reason why the Nutting Jack and Skid system can be such a money-saver in your plant. Material stored on sensitive skids is made mobile in a flurry. The jack may be coupled to one skid, then uncoupled and coupled to another faster than the time it takes to tell about it.

Send for Bulletin 48-JS

Look in your classified phone directory for your Nutting representative, or write for Bulletin 48-JS. It will pay you to get all the facts on this superior Nutting Jack-Skid handling system.

Nutting makes everything in floor trucks, wheels, casters.

NUTTING TRUCK AND CASTER COMPANY
2011 Division Street, Faribault, Minnesota

▼ BREVITY—Identify by IEN-10537 if you write the maker ▼

for NO DELAYS *between Replaced Bearings and Resumed Production*
Always *GET YOUR BEARINGS*

From BEARING SPECIALISTS

Members of THE ANTI-FRICTION BEARING DISTRIBUTORS ASSOCIATION

Every member of The Anti-Friction Bearing Distributors' Association carries a more than adequate stock of the many sizes and makes of bearings that you might require. Why take a chance on possible loss of production time? Get acquainted with your local "Bearing Specialist" now. Let him know your problems so that he can anticipate your needs. We'll be glad to have him call on you immediately. Why not write today?

"INSTALLATION, MAINTENANCE, REMOVAL of ANTI-FRICTION BEARINGS"
This 20-page booklet tells you the how and why of caring for all types of bearings. Practical ideas on all phases of bearing life. Ask for it now!

A word about the ANTI-FRICTION BEARING DISTRIBUTORS' ASSOCIATION

A group of BEARING SPECIALISTS, working with and for every segment of industrial America—maintaining the highest standards of business ethics and occupying a place of esteem in industry for the services they render—banded together to further increase their usefulness to industry.

THE ANTI-FRICTION BEARING DISTRIBUTORS' ASSOCIATION
1900 Euclid Ave., Cleveland 15, Ohio

▼ BREVITY—Identify by IEN - 10539 if you write the maker ▼

8-Page Condensed Catalog

shows Veeder-Root Counters for mechanical, electrical and manual operation. Write for a free copy.

VEEDER-ROOT INC.
HARTFORD 2, CONNECTICUT

▼ BREVITY—Identify by IEN - 10540 if you write the maker ▼

This DUREZ Phenolic serves under DOUBLE EXPOSURE

When the job calls for a heat-resistant material that will retain its excellent general properties when wet, Durez 11864 has real advantages. This is a mineral-filled molding compound in which the ability to withstand heat is combined with good water resistance (water absorption 0.1% max.), molding performance, and lustrous finish. With good performing characteristics, Durez 11864 is the ideal material for many applications encountered in current work.

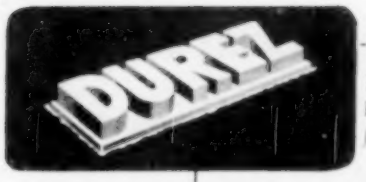
Consider DUREZ 11864 for

INDUSTRIAL
AUTOMOTIVE
ELECTRICAL

HEAT-AND WATER-RESISTANT PARTS

This material is recommended to molders desiring approval under JAN-P-14 or MIL-P-15088. It exemplifies the Durez policy of developing specific phenolic compounds to match the particular needs of the electrical and other manufacturing industries. Durez quality is available in all classes of phenolics.

SEND FOR DATA—Specification sheets with full details will be sent promptly on request. Durez Plastics & Chemicals, Inc., 1711 Walck Road, North Tonawanda, New York.



Phenolic Plastics that fit the job

PHENOLIC RESINS
- MOLDING COMPOUNDS
- INDUSTRIAL RESINS
- PROTECTIVE COATING RESINS

▼ BREVITY—Identify by IEN - 10542 if you write the maker ▼

CONNECTOR . . Electric splice cap, terminal lugs and application pliers

Source: BUCHANAN ELECTRICAL PRODUCTS CO.
1288-92 Central Ave., Hillside, N. J.

Open-end design of the metal cap, now a sleeve, has been added to the company's previously developed solderless splice cap. Two sizes take two No. 18 to three No. 8 wires. In each case the wires are twisted together then are inserted through the sleeve. Their projecting ends are cut flush with the sleeve end using the plier. It also is employed to crimp the sleeve prior to placing the insulating cap and locking it with the cap ring. The tool is known as the pres-Sure-crimping plier.

The line includes three design of terminal units known as Terminals. These are in ring, spade and locking-tongue designs for stud sizes from No. 6 to ¼ inch. Sizes in the line apply with wire sizes from No. 16 to No. 8. Detail illustrated information is in 4-page Bulletin 750.

▼ BREVITY—Identify by IEN - 10543 if you write the maker ▼

CALCULATING . . Tabulated charts for payrolls involving tax deductions

Source: DELBRIDGE CALCULATING SYSTEMS, INC.
2500-04 Sutton Ave., St. Louis 17, Mo.

To figure taxes effective October 1

Revised figures have been calculated and are assembled on a new edition of the company's payroll calculating charts to meet the new withholding deductions effective October 1, and also to show the 1½ per cent social security deductions. The charts are available in four assemblies for weekly, biweekly, semi-monthly and monthly payroll periods. All include tables covering daily and miscellaneous period deductions.

A special assembly is available for miscellaneous payroll period deductions covering 1 to 31 days in one-day steps. List price is $3.50 for the four regular units, $5 for the special one. Each chart assembly measures 7½ by 9¾ inches.

▼ BREVITY—Identify by IEN - 10544 if you write the maker ▼

SWITCH . . Foot operated design, rating is ¾ amp. on 110 volt ac.

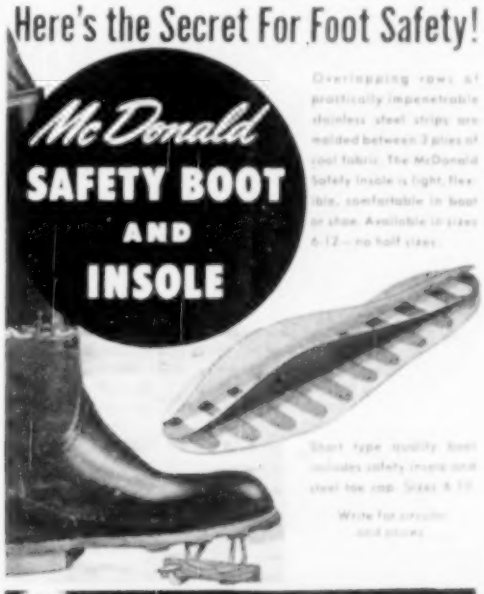
Source: PIONEER PATENTS & PRODUCTS CO.
23-27 N. Franklin St., Chicago 6, Ill.

Model 102-X is a new low-priced unit in the company's line of foot-operated switches, previously described IEN-7694-50. It is equipped with a No. 16 cord, measures 4 by 2 by 3 inches. The action can be specified normally-open or normally-closed single-acting. List price is about $2. Rust-proof finish is silver color.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 10545 if you write the maker ▼

Here's the Secret For Foot Safety!



Overlapping rows of practically impenetrable stainless steel strips are molded between 3 plies of cool fabric. The McDonald Safety Insole is light, flexible, comfortable in boot or shoe. Available in sizes 6-12—no half sizes.

Short type quality boot includes safety insole and steel toe cap. Sizes 6-12.

Write for complete data and prices.

B. F. McDONALD CO.
Manufacturers & Distributors of Industrial Safety Equipment
5110 S. HOOVER ST., LOS ANGELES 37, CALIF.
Other Offices in San Francisco & Houston

▼ BREVITY—Identify by IEN - 10546 if you write the maker ▼

▼ BREVITY—Identify by IEN - 10547 if you write the maker ▼

Take your pick of 25 B&D Drills to—

B&D Drills from ¼" to 1½" capacity in steel, double in hardwood — plus drive Hole Saws from ½" to 4" diam.—make powerful drill presses when mounted in B&D Drill Stands.

Speed up Drilling— Cut Drilling Costs!

BLACK & DECKER ELECTRIC DRILLS are packed with quality features that mean faster drilling, easier handling, longer life and lower costs!

The B&D Drill Line gives you a choice of capacity in 25 models—a choice of handles for easiest operation—a choice of speed, power and price in most sizes. The B&D Drill Line gives you full power from B&D-built motors that can't be stalled—extra-tough gears, shaft and chuck spindle and huskier housings for longer service.

Next time you need Electric Drills, be sure to see your nearby Black & Decker Distributor. Let him demonstrate the many features of these cost cutting, timesaving B&D Drills. Write today for free catalog to: THE BLACK & DECKER MFG. CO., 615 Pennsylvania Ave., Towson 4, Md.

LEADING DISTRIBUTORS EVERYWHERE (All)

Black & Decker PORTABLE ELECTRIC TOOLS

▼ BREVITY—Identify by IEN - 10549 if you write the maker ▼

CAMBRIDGE
VOLTAMOSCOPE
(an indicating instrument)

AND

VOLTAMOGRAPH
(a recording instrument)

FOR POLAROGRAPHIC ANALYSIS

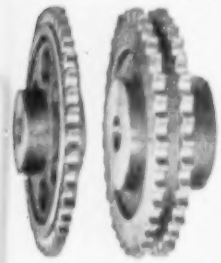
The VOLTAMOSCOPE is a non-recording instrument on which the voltage and current are read and manually plotted. Many chemical determinations are simply made by reading the currents of two known voltages and finding the difference.

The VOLTAMOGRAPH consists of a robust pen-writing galvanometer with amplifier and a potentiometer with chart driving mechanism. Suitable for industrial and research purposes. The voltage-current graph is automatically drawn. Operates directly from A.C. line.

Identical electrodes are used for both indicating and recording models. *Write for bulletin B 255.*

CAMBRIDGE INSTRUMENT CO., INC.,
3710 Grand Central Terminal, New York 17, N. Y.
PIONEER MANUFACTURERS OF PRECISION INSTRUMENTS

▼ BREVITY—Identify by IEN - 10550 if you write the maker ▼



Single and Multiple Width
DRIVE CHAIN SPROCKETS

Solid or Split Sprockets
"NI-HARD" Rim Sprockets
Coil Chain Sprockets
"STEEL CARVE" Flame Cut Sprockets
Replacement Rims
Spur, Angle, Miter and Rack Gears
Idlers and Traction Wheels
Solid or Split Pillow Blocks
Shaft Collars—Take-ups

Write to

JEFFREY
THE JEFFREY MANUFACTURING CO.
914 N. Fourth Street — Columbus 16, Ohio

▼ BREVITY—Identify by IEN - 10551 if you write the maker ▼

Adds up to...

Lower Chain Costs!

Reverse rising chain costs with TM Alloy Steel Chain. It's easier sell. It starts on the job, lasts in Alloy times longer. Has twice the tensile strength of wrought iron chain. TM Alloy Steel Chain is completely heat-treated for link to link uniformity. Extreme toughness and wear resistance to shock, grain growth and weak fatigues eliminate premature unending costs. Call your mill supply distributor today or write Dept. 4 for Bulletin 154.

S. G. TAYLOR CHAIN CO. HAMMOND, IND.

TAYLOR MADE *Chain* SINCE 1872

▼ BREVITY—Identify by IEN - 10552 if you write the maker ▼

PUNCHING . . Set of hand tools to cut washers, 14 sizes, 3/16 to 1 in.

Source: GARLOCK PACKING CO.
50 Garlock St., Palmyra, N. Y.

Fourteen punches made of tool steel, a pointed centering pin made of drill rod, a composition-rubber cutting block measuring 3 by 6 by ½ in. and a steel carrying case make up this new Gasket Punch tool set. The centering pin is employed to locate first the larger of two punches and then the smaller to cut a washer of given size. It is employed to locate a single punch to cut holes for bolts in a large gasket.

Cutting is by striking the punch with a soft-face hammer. Each punch can be reground repeatedly when sharpening is required. The rubber block can be resurfaced.

▼ BREVITY—Identify by IEN - 10553 if you write the maker ▼

STEEL . . Stainless sheet, heat contraction compares to glass

Source: CARNEGIE-ILLINOIS STEEL CORP.
1950 Carnegie Bldg., Pittsburgh 30, Pa.

Alloy contains 17% chromium

No. USS 17-TV is a new stainless-steel sheet for manufacture of television viewing tubes. Rate of expansion and contraction on temperature change parallels that for glass. The steel forms readily, has strength to resist pressures set up by internal vacuum in the finished tubes. The steel becomes the tube envelope and spacer between the glass screen and the cathode-ray assembly.

▼ BREVITY—Identify by IEN - 10554 if you write the maker ▼

METAL SPRAYING . . Portable gun for metals that melt below 600 deg. F.

Source: COOPER ALLOY FOUNDRY CO.
212 Bloy St., Hillside 5, N. J.

New Spray King gun is designed to operate vertically downward holding a supply, to 7 lb., of metal in molten condition in its electrically heated stainless-steel cylindrical housing. Heat is controlled by a thermostat between 100 and 600 deg. F. The metal is sprayed through an end nozzle upon opening a lever-controlled valve for flow of air at 25 to 125 lb. from a shop line.

The gun weighs about 4½ lb., is equipped with a suspending bail. It was initially developed to spray metal in manufacture of foundry core boxes and patterns. List price is $175.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 10555 if you write the maker ▼

dependable CYLINDER POWER ...by NOPAK

For simplified machine movements . . . for pulling, pushing, lifting, clamping . . . with power range from Low Pressure Air to High Pressure Hydraulic . . . there's a NOPAK Cylinder to meet your needs.

NOPAK Cylinders are available in 4 different classes of construction . . . to meet varied service requirements and accommodate line pressures from 50 to 2000 P.S.I. . . . in 6 Standard Mountings . . . with or without Adjustable or Self-Regulating Cushions . . . and a choice of Piston-Assembly Types.

GALLAND-HENNING MFG. CO.
2760 S. 31st St., MILWAUKEE 46, WIS.

Standard Heavy Duty

Write for Bulletin IW-1

Representatives in Principal Cities

NOPAK
VALVES AND CYLINDERS
DESIGNED for AIR and HYDRAULIC SERVICE

▼ BREVITY—Identify by IEN - 10556 if you write the maker ▼

HINGED PLATEGRIP
BELT FASTENER No. 500

For Heavy Conveyor Belts of Changing Length

These heavy-duty belt fasteners make a strong, flexible joint in conveyor belts, belts of any width and of from ⅛" to ½" thickness. They offer special advantages in mines, quarries or industrial setups where length or position of belt is frequently changed, because sections can be removed or added at will. Joints are opened for this purpose by simply pulling out the hinge pin.

Easily and quickly applied on the job or in the shop. Special design gives deep compression into belting and smooth, flush joint.

Write for Circular.

ARMSTRONG-BRAY & CO.
5386 NORTHWEST HIGHWAY CHICAGO 30

▼ BREVITY—Identify by IEN - 10557 if you write the maker ▼

a remarkable new label

faster to apply...easy to remove!

The remarkable, new "active adhesive" of *Kum-Kleen* pressure-sensitive Labels seals them in the most difficult-to-label surfaces without heat or moistening . . . labels never curl or pop, even in temperature and humidity extremes. Because they're peelable, they may be placed on parts and equipment in the exact spot they should go. Will not mar the surface or leave a trace.

Kum-Kleen labeling pays its own way! Many users say the time and money savings of *Kum-Kleen* dispensing methods pay cost of labels!

Kum-Kleen

ADDRESS: DEPT. IEN-11
AVERY ADHESIVE LABEL CORP.
MONROVIA, CALIFORNIA

▼ BREVITY—Identify by IEN - 10558 if you write the maker ▼

SIMPLE AS A.B.C.

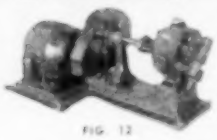


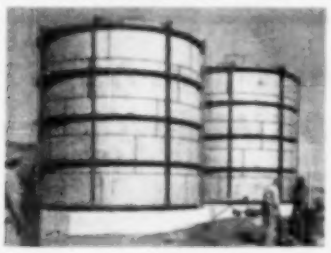
FIG. 12

It is the simplest engineering axiom that . . . the fewer the parts the less the friction and wear . . . the longer the life. The Viking Rotary Pump has "Just Two Moving Parts" . . . the simplest possible design for a pump. Little wonder they require so little power . . . need so few repairs . . . and last so long. Little wonder, too . . . why they are chosen so universally for industrial pumping applications. Write for Special free Bulletin 505F today. No obligation, of course.

See Our CATALOG IN SWEETS

VIKING PUMP CO.
CEDAR FALLS, IOWA

▼ BREVITY—Identify by IEN - 10559 if you write the maker ▼



WHEN Corrosion IS A PROBLEM

. . . in storage tanks or process equipment, you'll probably turn to corrosion-resistant metals. When you do, remember we have . . . complete facilities for fabricating structures from stainless steel, monel, nickel, aluminum, Everdur and other alloys . . . four plants located to give fast service . . . a long list of successful installations now in use. Write our nearest office for estimates and quotations.

Above: Two stainless steel tanks with carbon steel framing that are used to store nitric acid.

CHICAGO BRIDGE & IRON COMPANY
2123 McCormick Building • Chicago 4, Illinois
Atlanta • Birmingham • Boston • Cleveland • Detroit • Houston
Los Angeles • New York • Philadelphia • Salt Lake City
San Francisco • Seattle • Tulsa
Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA.

▼ BREVITY—Identify by IEN - 10560 if you write the maker ▼

Machine de-burring with NOBUR pays BIG production dividends!

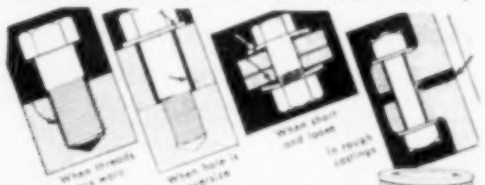
NOBUR Tools turn a slow bench operation into fast and efficient machine work! Remove burrs on multi-walled parts with a smooth, clean cutting action that won't mar highly finished surfaces. Eliminate rejects from slow, costly hand work with files, scrapers and abrasives.

Nobur Tools are used on any lathe, drill press, portable drill or flexible shaft. Operation of the double-edge cutting blade is easy and safe . . . no skilled help is required, and the spindle never needs to be stopped for either de-burring or chamfering.

Nobur Tools cut freely on either hard or soft metals, are simple in construction and are made in sizes to cover a full range of hole diameters. ***NEW "DS" SERIES extends range of NOBUR applications to holes as small as 1/8" diameter. WRITE FOR FULL DETAILS TODAY!**

NOBUR MANUFACTURING COMPANY
717 N. VICTORY BLVD., BURBANK, CALIF.

▼ BREVITY—Identify by IEN - 10561 if you write the maker ▼



How to Solidly Anchor LOOSE BOLTS

Bolts with worn threads—undersize bolts in oversize holes—bolts passing through thin walls—bolts holding ill-fitting cast flanges—all can be tightened firmly with quick-setting Smooth-On No. 1 Iron Cement. Use it, too, to lock nuts tight, and to cover and protect countersunk bolt heads in metal or wood. These repairs stay tight because Smooth-On expands slightly as it hardens. Buy Smooth-On No. 1 in 7 oz., 1 lb., 5 lb., 29 lb., or 180 lb. size and keep it handy. If your supply house hasn't Smooth-On, write us.

FREE REPAIR HANDBOOK

40 Pages filled with time-saving, money-saving repairs on plant, shop and home equipment made with No. 1 and other Smooth-On Cements. Drop us a line for YOUR free copy.

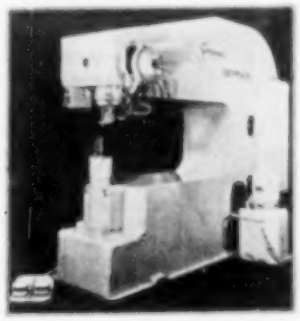
SMOOTH-ON MFG. CO., Dept. 1
570 Communipaw Ave., Jersey City 4, N. J.

Do it with SMOOTH-ON
THE IRON CEMENT OF 1000 USES

▼ BREVITY—Identify by IEN - 10562 if you write the maker ▼

RIVETING . . Automatic cycle machine clamps work, drills, inserts and heads

Source: GENERAL RIVETERS INC.
783-87 Hertel Ave., Buffalo 7, N. Y.



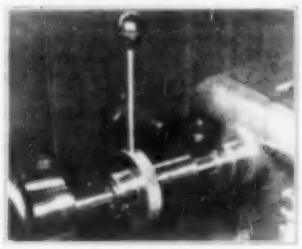
Model G-39A Drivematic is a new magazine feed machine in which a motor drives a four-speed drill spindle and a motor driven hydraulic unit provides pressure to clamp the work in place and to head a rivet that the machine inserts into the hole it has just drilled. Capacity is for rivets made of aluminum alloy to 3/8 in. in diameter by 1¼ in. in length, or longer with hand or special feed. Drill depth capacity is 1⅜ inches. Heading pressure is maximum at 8 ton. Operating speed is sufficient to complete as many as 15 rivets per minute. Throat depth is 60 inches. Overall dimensions are 31 by 108 by 96 inches.

The cycle starts with upward movement of the lower anvil when the operator has inserted the work and has depressed a foot pedal. This movement clamps the work against an upper stationary pressure foot and the drill spindle feed is actuated to drill and countersink the hole and retract. As soon as the drill clears and the spindle has moved over feed fingers position a rivet above the hole and under a bucking anvil. It moves down carrying the rivet into the hole and locks while the hydraulic ram in the bottom head moves up to form the head. Final retraction returns the machine to its starting position and releases the work.

▼ BREVITY—Identify by IEN - 10563 if you write the maker ▼

THREADING . . Tap and die holder centers and supports tools in a lathe

Source: CRAFT-HOLLOW INDUSTRIES
49 Providence Road, Wallingford, Pa



Standard extension drill shank acts as supporting element in this new combination of holders for taps and drills to apply in a lathe. The shank is machined on its outside diameter to act as a spindle on which the die holder floats freely. It is bored for a straight recess to take the solid shank at the rear of a tap chuck. Both die holder and chuck are fitted with a knurled ring for the operator to hold against rotation to thread or tap small work in a lathe spindle. On larger work a small bar provides leverage.

List price for the set is $35 to include the extension shank with No. 1, 2 or 3 Morse taper, or a specified straight shank, the die holder, the tap chuck and the bar. Capacity is for threads from No. 080 to 5/8-16. A feature is ability to release on bottoming and to spin a tap or die from the finished work.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 10564 if you write the maker ▼

PAGE FENCE - Since 1883

• AMERICA'S FIRST WIRE FENCE •

Tailored to Your Needs

● Whether you have management or operating responsibility we have a new, informative booklet that's tailored for you. It will give you valuable information on day and night protection of property and persons by means of fence that's also tailored to your requirements. Your Page Chain Link Fence can be of the style, height and metal that's best for you, no matter what the conditions. And it will be erected by experienced, local experts who offer more than a product—a complete fence service. Write for DH-142. With it we will send name and address of nearest Page Fence specialist.

Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, Pittsburgh, New York or San Francisco.

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

▼ BREVITY—Identify by IEN - 10565 if you write the maker ▼

SPEED UP SMALL PARTS ASSEMBLY

Parts feed automatically toward front—and reaching and fumbling.

Bins taper toward front to form convenient semicircle—keep all bins within easy reach.

Stacking, locking construction for rigid set-ups, easily changed when necessary.

All-welded construction. Smooth, folded edges.

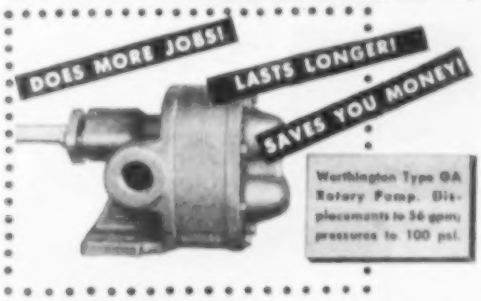
New design, adjustable hoppers provide increased capacity and permit regulated flow of parts according to sizes and weights.

Two sizes—tapered or straight sides.

IMMEDIATE DELIVERY
Manufactured and sold in Canada exclusively by Wickwire-Stackbin, Ltd., Ottawa
Write Stackbin Corp., 1077 Main Street, Pawtucket, R. I.

STACKBIN SYSTEM
"Stacked and Still Accessible"

▼ BREVITY—Identify by IEN - 10566 if you write the maker ▼



Here's a small rotary pump that handles hot, cold, thin or viscous liquids—under severest conditions. Amazingly simple and rugged, the GA has many advanced features that assure longer, lower-cost, trouble-free pumping.

Like every other pump in Worthington's complete standard line—which includes all types and sizes—the GA is "job-ready" for top performance in its particular work-range.

Make Worthington—with its longest experience in the field—your "pump headquarters"—for service that proves *there's more worth in Worthington.* Write to *Worthington Pump and Machinery Corporation, Dept. G821, Merchandising Division, Harrison, New Jersey.*

WORTHINGTON

▼ BREVITY—Identify by IEN - 10567 if you write the maker ▼

Peter A. FRASSE and Co., Inc.

17 Grand Street, New York 13, N. Y., Walker 5-2200
JERSEY CITY • PHILADELPHIA • BUFFALO • SYRACUSE • HARTFORD • ROCHESTER • BALTIMORE

▼ BREVITY—Identify by IEN - 10568 if you write the maker ▼

Can You Use SELF-LUBRICATING JOHNSON LEDALOYL BEARINGS?

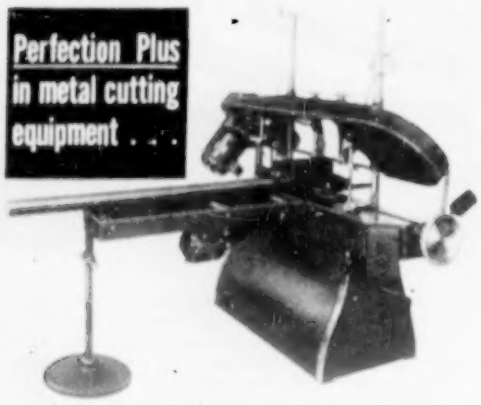
IF SO, YOU WILL SAVE MONEY

NEW USES for these porous, oil-impregnated bearings are being discovered every month. You may need them for applications difficult to lubricate. They may even be sealed in place. Made by powder metallurgy, they are very low in cost. Johnson engineers will assist you in determining whether Ledaloyl Bearings can be used to advantage. Write today.

Johnson Bronze
SLEEVE BEARING HEADQUARTERS
476 SOUTH MILL STREET • NEW CASTLE, PA.

▼ BREVITY—Identify by IEN - 10569 if you write the maker ▼

Perfection Plus in metal cutting equipment . . .



. . . . by the PIONEERS in this field!

Productive volume UP, manufacturing costs DOWN—that's the job our band saws are doing in plant after plant. Big 14" x 18" capacity gives broad operating range. Fully automatic—motor driven, hydraulically controlled. Perfected by the pioneers in electric band saw manufacturing, these units guarantee the utmost precision accuracy.

Investigate the money saving possibilities offered by our line of trouble-free saws. Coolant system for wet cutting, automatic mice-up system, and other accessories available as described in our FREE illustrated catalog.

WRITE TODAY FOR COMPLETE INFORMATION

W. F. WELLS & SONS
Three Rivers, Michigan

▼ BREVITY—Identify by IEN - 10570 if you write the maker ▼

▼ BREVITY—Identify by IEN - 10571 if you write the maker ▼

POLISHING . . Abrasive belt machine employs resilient face contact wheels

Source: STEPHEN BADER & CO.
Lakeview & Longdon Blvd., Rockville Centre, N. Y.

Floor stand at the front of this new polishing machine mounts an adjustable support bracket with bearing forks to take interchangeable contact wheels ranging in diameter from 1½ to 18 inches. A stand at the rear, also adjustable, carries an idler for the belt and mounts the 2-hp, reversible driving motor and drive pulley. The abrasive belt measures 6 to 14 ft. in length by ½ to 3 in. in width. Control centers at a starter on the floor stand.

Work pieces of curved or irregular contour will cause the contact wheel to depress in a corresponding outline for uniform action when the work is pressed against the belt. The fact that the contact wheel is an idler eliminates accumulation of slack in the belt at the point of work contact. Adjustments in the contact-wheel support permit the operator to set alignment at his working position.

▼ BREVITY—Identify by IEN - 10572 if you write the maker ▼

CONTROL . . Photoelectric equipment holds side alignment in moving strip

Source: AIRLECTRON INC.
110 Washington St., Room 605, New York 6, N. Y.

Two light beams project from the upper to the lower heads in the illustrated sensing element of this new Linar Edgetrol equipment. The beams are located so the moving strip of material passing through the central housing cutout will normally intercept one beam and leave the other uncovered. Inward movement to intercept both beams results in a correction signal. Outward movement to uncover both will actuate a second correction signal in the opposite direction. Both signals are carried by electrical connection to a combination amplifying and control housing where corrective action originates to the strip-handling machine to readjust alignment.

The sensing element measures 3 by 4 by 7 inches. The control housing is somewhat larger and has capacity to handle corrective equipment rating to 3 hp. Two models will hold edge registration within .03 and .005 inch. Failure in either light beam renders the control inoperative. An automatic cutoff disconnects the correcting mechanism unless the main drive for the moving strip is operating.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

FIND WHAT YOU WANT?
See the finding suggestions in the index, page 110

▼ BREVITY—Identify by IEN - 10573 if you write the maker ▼

You Never Can Tell

Confidentially, here at Earle Gear, we *have* to make sure that every gear we ship from our plant is just the *right* gear for the job.

Why?

Well, it all started when we were called upon to furnish gears and machinery for a large bascule bridge in what was for us, a new sales area. The job turned out to be a tough one—took most all the skill we could muster and more time than we could spare. But, it turned out to be worth it.

Because, not long after that bridge was put into operation, orders for gears of *all* types, large and small, began to come in from that area and continue to come in today.

You never can tell when a thing like that may happen again. And, we don't want to take any chances.

THE EARLE GEAR & MACHINE CO., 4707 Stenton Ave., Philadelphia 44, Pa.

it's good business to do business with EARLE.

EARLE GEARS

▼ BREVITY—Identify by IEN - 10574 if you write the maker ▼

What can these *NEW INDIUM* alloys do for you?

- Cerrolow - 117
- Cerrolow - 136
- Cerroseal

These alloys melt at 117° F. and higher. They have almost negligible shrinkage in solidifying—.0002" per inch.

Among actual and suggested uses are:

Ultra-Low Temperature Solders in delicate special instruments.

Low-Temperature Fuses—for Diathermy, Electric and Refrigeration Applications.

Mechanical Safety Devices for protecting delicate machinery, etc. against operation at harmful elevated temperatures and for controlling processing.

As transfer medium for transferring surface detail from one surface to another, where a conductive negative reproduction is desired as a foundation for electro forming to obtain metallic duplicate of original surface. Can be cast or sprayed against human tissues or other fragile materials without harm.

Joining of laboratory glassware for vacuum or pressure seal.

Many other applications. Describe your problem. Maybe we can give you the answer.

CERRO DE PASCO COPPER CORPORATION
Department 6, 40 Wall Street New York 5, N. Y.

▼ BREVITY—Identify by IEN - 10575 if you write the maker ▼

STOP PIPE LEAKS POSITIVELY

Users tell us this is the best all-around pipe leak clamp made.

IT'S QUICK. One person can install a Patchmaster in 30 seconds—even in inaccessible locations because clamp is light and forms naturally to pipe contour.

AMAZINGLY STRONG. Made of flexible stainless steel for strength and corrosion resistance it withstands pressures up to 300 p.s.i.

PERMANENT. There's no need to make any further repairs—the Hycar pad and clamp is resistant to deterioration by water, gas, oil, etc.—whole unit will actually outlast the pipe.

HIGHLY ECONOMICAL. The Patchmaster is an inexpensive permanent repair or it can be used and reused, saving you money either way.

4 SIZES FOR ALL PIPE FROM ⅜ TO 4 INCHES
For information and literature on Marman's complete line of pipe leak clamps write Dept 1-11.

MARMAN PRODUCTS CO. INC.
940 W. FLORENCE AVE., INGLEWOOD, CALIF.

▼ BREVITY—Identify by IEN - 10576 if you write the maker ▼

Asarcon 773 BEARING BRONZE . . . IN ANY LENGTH YOU NEED

- Any length required, up to 105". Longer or shorter than 13"... to suit your requirements.
- Always meets SAE 660 Specifications.
- Minimum of wasted short ends.
- No sand or dross to dull tools.
- No soft or hard spots.
- No blowholes or porosity.
- Better fatigue characteristics.
- Greater impact strength, tensile strength, yield strength and hardness.
- National distribution.

Order ASARCO 773 bar bronze in any length you need . . . up to 105".

AMERICAN SMELTING AND REFINING COMPANY
Perth Amboy Plant, Barber, New Jersey

▼ BREVITY—Identify by IEN-10577 if you write the maker ▼

Free!

FROM WESTERN PRECIPITATION

28 pages of helpful facts about

COTTRELL ELECTRICAL PRECIPITATORS

THIS HELPFUL 28 PAGE BOOKLET—prepared by Western Precipitation Corporation, pioneers in the commercial application of COTTRELL Precipitators—summarizes and illustrates many of the basic facts you should know about COTTRELL Precipitators for use in recovering industrial dusts, mists, fogs, fumes, fly ash and other suspensions from gases. Written particularly to answer questions of design engineers, plant engineers and others interested in COTTRELL Precipitators, this booklet outlines the various types available, how they operate, principal types of electrical systems and rectifiers, shell constructions, other helpful data.

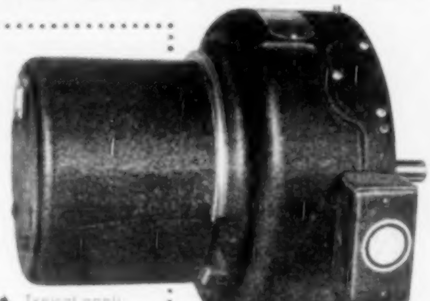
As long as the supply lasts, a free copy will be sent on request to our nearest office. Write for Bulletin No. C103 today!

WESTERN Precipitation CORPORATION

▼ BREVITY—Identify by IEN-10578 if you write the maker ▼

New Better Line of

C-H DISC BRAKES



Typical application new Cutler-Hammer CD5 Disc Brake on Fairbanks, Morse & Co. axial air-gap motor.

For easy unit mounting on NEMA type C motor flanges, easy handling, installation, accessibility even in "tight corners"

Now, makers and users of motors have available a line of disc brakes that mount without modification on NEMA Standard Type C Motor Flanges. From 1½ to 75 lbs. ft. brake torque, for a.c. or d.c. service. Now, brakes can be mounted on a vertical shaft without modification.

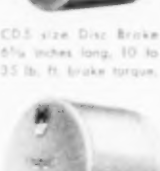
These new Cutler-Hammer brakes are smaller, lighter, easier to handle, provide utmost compactness, easy mounting and accessibility, operating perfection and dependability.

Mounting plate that supports brake mechanism has standard mounting holes for NEMA type C motor flanges, also hole for leads from brake coil through motor to terminal box. Conduit openings are also provided. Wrap-around cover lifts off laterally, needs no brake end clearance. A simple fastener holds cover in place.

CD4 size has simple direct acting magnet member. Larger sizes are solenoid operated, with limited stroke for sure closing and no coil burn-out. Use of single disc provides snappy action, no drag and less wear. Brake lining is a solid disc with no rivets. CD4 never needs adjustment once it leaves the factory. Infrequently needed adjustment on larger sizes easily discovered, easily made. Manual release is optional on CD4, is standard with automatic reset on larger sizes and incorporates a lining wear indicator. Smooth, gray, steel cover harmonizes pleasingly with motor finish. CUTLER-HAMMER, Inc., 1378 St. Paul Ave., Milwaukee 1, Wisconsin. Associate: Canadian Cutler-Hammer, Ltd., Toronto, Ont.

CD4 size Disc Brake 3½ inches long, 1½ to 3 lb. ft. brake torque.

CD5 size Disc Brake 6⅛ inches long, 10 to 35 lb. ft. brake torque.



CD8 size Disc Brake 7⅛ inches long, 30 to 75 lb. ft. brake torque.

CUTLER-HAMMER MOTOR CONTROL C-H

▼ BREVITY—Identify by IEN-10580 if you write the maker ▼

METER . . Switchboard instrument mounts shadow free 4¼ in. scale

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

Type AB-18 and Type DB-18, respectively for ac and dc circuits, is a new line of switchboard instruments with protruding convex glass covers. The cover permits flush front mounting for the scale so no shadows will be cast on it from overhead lighting. Twenty-five of the instruments can be mounted on a panel 24 by 24 inches. Meters to measure current, voltage, resistance, power are in the line.

▼ BREVITY—Identify by IEN-10581 if you write the maker ▼

SWITCH . . Miniature snap acting, double throw, 3 amp. on 110 volt ac.

Source: ACRO MFG. CO.
2038-42 E. Main St., Columbus 16, Ohio

Model M-OM is a new switch in the company's snap-acting line. It measures ⅞ in. in length, takes a No. 1 mounting screw. The gap contact measures .01 inch. Movement differential is .02 inch. Operating force is 2 to 5 oz. with release force at 1½ oz. minimum. Life is rated at 500,000 operations. The complete switch line is illustrated in 24-page Catalog, "Rolling Spring Switches."

▼ BREVITY—Identify by IEN-10582 if you write the maker ▼

CYLINDER . . Hydraulic or pneumatic, 14 and 16 in. bore and specified stroke

Source: HANNIFIN CORP.
1108 S. Kilbourn Ave., Chicago 24, Ill.

Type HLW is a recently redesigned unit in the company's lines of power cylinders for hydraulic or pneumatic pressure. The one shown in the illustration is a 16 by 6-in. assembly with single-rod extension and base mounting. Double-rod extension can be specified with mounting in any of a number of arrangements. The pistons are fitted with cup packings. The piston rod is sealed with chevron rings. Connection ports are threaded for 1 or 1¼ in. pipe.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 56

▼ BREVITY—Identify by IEN-10583 if you write the maker ▼

for dependable performance from freezing to brazing

Whether it's sub-zero food processing or high-temperature copper brazing—or in numerous in-between applications—Wissco Metal Processing Belts carry the product safely, dependably, more efficiently.

Write for illustrated catalog MS-... describing the adaptability and cost-cutting advantages of Wissco Belts—with or without chain edge—in the processing of foodstuffs, metals, glass, ceramics, ... textiles, rubber and numerous other products.

WISSCO METAL PROCESSING BELTS CF&I

A PRODUCT OF WICKWIRE SPENCER STEEL DIVISION OF THE COLORADO FUEL & IRON CORPORATION
Sales Office and Plant—36 Sterling Street, Clinton, Massachusetts
Executive Office—500 Fifth Avenue, New York 18, New York
Sales Offices—Atlanta • Boston • Buffalo • Chicago • Denver • Detroit • New York • Philadelphia
Pacific Coast—The California Wire Cloth Corporation, Oakland 6, California

▼ BREVITY—Identify by IEN-10584 if you write the maker ▼

Solves "SMALL PARTS" Production Problems

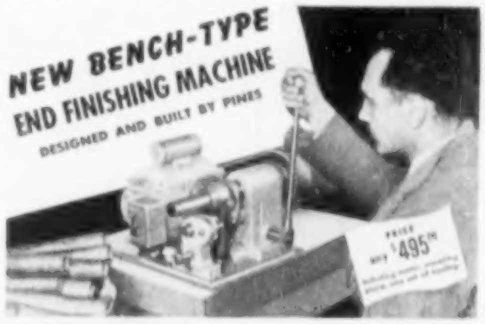
RIVETING
PRESSING
STAKING
MARKING
PUNCHING
ASSEMBLING

- Electric push button control, hand or foot operated, through Hannifin's new exclusive fast-cycling 4-way solenoid valve.
- Guided ram. Speed easily adjustable. Automatic return.
- Removable steel base plate. Facilitates changing tub set-ups through use of alternate work bases.
- Extremely rigid frame. Built to big press standards for quality.
- Cylinder "TRU-BORED" and honed. Long life. Minimum maintenance.

the New HANNIFIN "Han-D-Press" air operated!

ASK FOR NEW BULLETIN 251

▼ BREVITY—Identify by IEN-10585 if you write the maker ▼



Saves Time on deburring, facing, chamfering, center drilling, reaming operations . . .

Designed to speed tube, pipe, and rod end-finishing work of any size or length up to 2" diameter. Has a new-type chuck and clamping unit, automatic swing-type stock stop, interchangeable jaw inserts, multiple tool holders, precision spindle bearings, ½ hp motor, 8-speed sheave. Portable, weight only 170 lbs. Fast, easy to operate, has quick change-over features. Forward movement of operating lever, clamps piece, removes stock stop, feeds work to center. Operator always has one hand free for loading. Saves time. Typical production: 400-500 tube ends per hour. Speeds output.

Write for Free Bulletin

PINES ENGINEERING CO. Inc.
Specialists in Tube Fabricating Equipment
616 WALNUT AURORA, ILLINOIS

▼ BREVITY—Identify by IEN-10586 if you write the maker ▼

Vaportight

Industrial Lighting Fixtures

Dependable lighting in the presence of moisture and non-flammable dusts, gases or vapors is assured by the substantial protection built into Pyle-National Vaportight Pylets. Heavy cast metal bases, weathertight sealing, and heavy guards, are features that provide for the most severe operating conditions of industrial service.

The Pylet line includes a complete range of types, including types for conduit and wall mounting, universal 4 and 5-hub types, two and three gang, handrail and outlet box fixtures for 10 watt to 200 watt lamps. Also Midget fixtures, plugs and receptacles, switches, junction boxes and other vaportight Pylets. Consult your Pylet Catalog 1100 for complete listings.

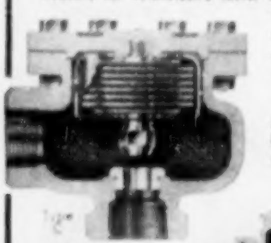
THE PYLE-NATIONAL COMPANY
1348 North Kostner Avenue • Chicago 51, Illinois

▼ BREVITY—Identify by IEN-10587 if you write the maker ▼

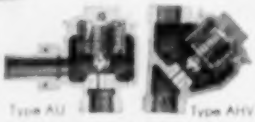
Nicholson Steam Traps

CUT HEAT-UP TIME 48%

A large processor recently reduced the heating cycles of cookers from 1¾ hrs. to 50-60 min., by substituting Nicholson thermostatic steam traps for a mechanical type. This effected a gratifying production increase of 37%. Reasons for Nicholson's faster heat transfer: operate on lowest temperature differential; 2 to 6 times average drainage capacity; maximum air venting.



5 TYPES FOR EVERY APPLICATION, process, heat, power. Sizes, ¼" to 2"; press. to 225 lbs.



BULLETIN 450 or see Sweet's

W. H. NICHOLSON & CO. 159 OREGON ST. WILKES-BARRE, PA.

Sales and Engineering Offices in 33 Principal Cities

▼ BREVITY—Identify by IEN-10590 if you write the maker ▼

CONVEYING . . Belt type unit throws bulk materials to store or ship

Source: STEPHENS-ADAMSON MFG. CO.
231 Ridgeway, Aurora, Ill.

New design of the motor or engine-driven Swivel Piler, previously described IEN-1042-45, includes wheel and suspension mountings to receive bulk materials through a duct or directly from the end of a belt conveyor. The two designs extend the initial purpose in loading bulk materials by throwing them through a box-car door to a range of conveying, storing, piling, re-piling of bulk materials to 2 in. in lump size. The machine will handle as much as 50 ton per hour. It will throw a distance of 50 ft. and pile to a height of 20 feet.

A 12-in. belt rides loosely between two pulleys one of which is driven by a 5-hp. motor or gasoline engine. Two narrow-tread idler wheels are mounted at the sides to bear down on the belt, tightening it on the pulleys and forming a pocket into which the material is dropped. Centrifugal force brings the material up to the high belt speed and causes it to discharge in a steady stream from the unit. Discharge angle can be set by swiveling the belt-and-pulley assembly in a vertical plane. Horizontal direction is controlled by swiveling horizontally. Weight is about 450 pounds.

▼ BREVITY—Identify by IEN-10593 if you write the maker ▼

NOW—EXACT WEIGHT Scales for Unknown or Catch Weights . . .

EXACT WEIGHT Scales announce a complete line of new automatic fan dial scales for unknown or catch weighing—five types and twenty-three models, in capacities from 1 lb. to 40 lbs. Equipment is available in both metric or avoirdupois as desired. These scales are manufactured to the same high standards of all EXACT WEIGHT Scales to give you greater accuracy, dependability and long lasting service in hard industrial use. This new line is highly flexible and adaptable to many varied applications. New literature giving full specifications of all models as to weighing capacity, dial markings, type of commodity holders and beams is ready for mailing. Write for your copy, either for immediate use, or for your files.

EXACT WEIGHT SCALES
Industrial Precision

THE EXACT WEIGHT SCALE COMPANY
930 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

▼ BREVITY—Identify by IEN-10588 if you write the maker ▼

Cuts Floor-Cleaning Time 2/3!

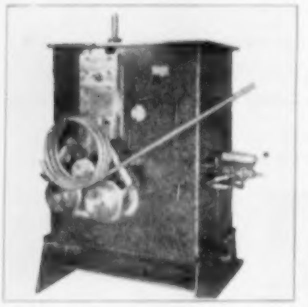
Here is a *Finnell Scrubber-Vac, No. 418P*, specially designed for buildings with 2,000 to 15,000 sq. ft. of floor space. Cleans floors in *about one third the time* required with a conventional 15 or 18-inch polisher-scrubber using separate equipment for pickup. Speeds cleaning by handling *four operations in one*—applies the cleanser, scrubs, rinses if required, and picks up (damp-dries the floor). Also can be used for the dry work (polishing, et cetera). Has 18-inch brush ring . . . is self-propelled. Can be leased or purchased. For free demonstration on your own floors, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 2611 East St., Elkhart, Ind.

FINNELL SYSTEM, INC.
Pioneers and Specialists in
FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES
BRANCHES IN ALL PRINCIPAL CITIES

▼ BREVITY—Identify by IEN-10591 if you write the maker ▼

BENDING . . Rolling machine for pipe and bar stock, makes coils

Source: WALLACE SUPPLIES MFG. CO.
1300-12 Diversey Parkway, Chicago 14, Ill.



Series 490 is a new roll-type bending machine in which the work rides between two lower power-driven rolls and a vertically adjustable upper roll that is backed by valve-controlled hydraulic pressure. Two additional idler rolls between the main units and the housing face can be set horizontally to produce a desired pitch as the rolling proceeds. Vertical position of the upper roll determines the diameter of the finished work. The machine can be operated to produce right or left-hand coils.

Three sizes take pipe from 1¼ to 3½ in. and will produce minimum radius of 9 to 16 inches. The same machines will bend square bars measuring 1 to 2 in. to a 12 or 24-in. minimum radius. They will bend ½ by 4-in. or ⅝ by 8-in. flat stock the hard way to minimum 18 and 42-in. radius. The roll motor rates 2 to 15 hp. The hydraulic-pressure motor is 1 to 3 hp. Floor space is about 4 by 4½ ft. to 7½ by 12 feet.

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . . Descriptions . . . Ratings . . . *See Page 50*

▼ BREVITY—Identify by IEN-10594 if you write the maker ▼

YOU CAN'T BUY better dial thermometers

Compare the Taylor 8-inch 22K Series Dial Thermometers with any other dial thermometers on the market today! You'll find them far ahead of the field on at least five points:

1. Easy reading, 8-inch black metal dial with white figures and graduations.
2. Wedge-shape pointer directs your eye instantly to indication.
3. Many standard dials for ranges from minus 200° F. to plus 1000° F.
4. Mercury, vapor, gas or organic liquid actuations give required characteristics for any measurement problem.
5. Die-cast, compact, moisture-and-dustproof case.
6. Two types of mounting—bottom-connected (shown) or back-connected with flush-mounting flange (not shown) for panelboard installation.

For complete details, write for Catalog 22K. Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada. *Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*

TAYLOR INSTRUMENTS MEAN "ACCURACY FIRST"

▼ BREVITY—Identify by IEN-10589 if you write the maker ▼

MODERN CUTTING-OFF MACHINE

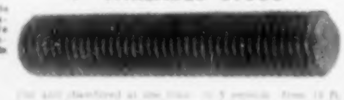
Cuts off longer pieces than regular automatic machine—any length you want. FAST cutting and chamfering of tubing, pipe, shafting. Check the following figures:

½" Tubing — Cuts and chamfers both outside edges of ½" .030 wall tubing, 3" lengths, every 2.5 seconds.

1¼" Cold Rolled — Cuts and Chamfers both ends, 20" long, at rate of 1 every 28 seconds.

1" Tubing — Cuts and Chamfers both outside edges, pieces 2" long, also every 3 seconds.

4" THREADED STUDS



Modern Automatic Cutting-Off Machines available in 2 sizes, handling work up to 1" O.D.

WRITE for CATALOG

[illegible]

MODERN MACHINE TOOL CO.
JACKSON MICHIGAN

▼ BREVITY—Identify by IEN-10592 if you write the maker ▼

UNIVERSAL INDUSTRIAL CONVEYOR

Low First Cost . . . . Low Maintenance

Illustrated is model for punch press operation. Other models designed to meet a wide range of conveyor problems.

Furnished in 5 lengths—8, 12, 16, 20 and 24 feet.

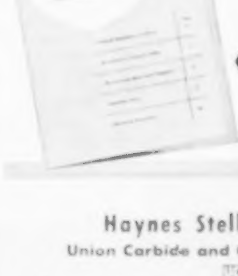
Literature and estimates on request

- Removable sides to permit handling large cartons or parts.
- Motor totally enclosed inside conveyor body easily accessible through removable ventilating panel.
- Elevates to desired height with simple hoisting mechanism.
- Driven by means of roller chain to roller bearing equipped gear box.
- Main drive shaft and idler pulley operate on double-sealed ball bearing.
- Standard belt width, 12 inches. Other widths can be furnished to meet your requirements.
- Belt speed, 74 F.P.M.—adjustable if desired.

INDUSTRIAL ENGINEERING & MFG. CO., INC.
BRIMFIELD, INDIANA, U.S.A.

▼ BREVITY—Identify by IEN-10595 if you write the maker ▼

get the LATEST DATA on 4 alloys to combat corrosion



Every designer . . . every engineer . . . and every fabricator who is faced with the problem of selecting a high-strength material that will withstand severe chemical corrosion should have a copy of this new 40-page booklet. It tells the story of the four HASTELLOY alloys—what they are, how they are fabricated, and how they can be used to combat severe corrosion.

Ask for a copy of the booklet "HASTELLOY High-Strength, Nickel-Base, Corrosion-Resistant Alloys."

Haynes Stellite Division
Union Carbide and Carbon Corporation
General Offices and Works, Kokomo, Indiana

"Hastelloy" is a registered trade-mark of Union Carbide and Carbon Corporation.

▼ BREVITY—Identify by IEN - 10596 if you write the maker ▼

Is Storage Space your problem?

SMALLER TURNING RADIUS OF THE MOTO-TRUC

REDUCE AISLES by Palletizing with

MOTO-TRUC MOTORIZED, BATTERY OPERATED HI-LIFT TRUCKS

A few Moto-Truc advantages:

18" to 20" shorter in over-all length, operates in narrower aisles.

Simple controls — in easy grip roller type handle. 12 and 18-volt motors provide unusual power.

Patented articulating hinged spring unit holds drive wheel down on floor for better traction.

WRITE FOR BULLETIN NO. 50, and Specifications

The MOTO-TRUC Co.
1151 E. 59th Street
CLEVELAND 3, OHIO.

Originators and world's largest exclusive manufacturers of motorized, battery operated walkie type trucks

HI-LIFT TRUCKS • PALLET TRUCKS • PLATFORM TRUCKS

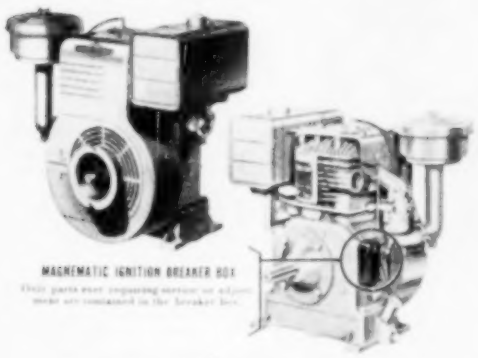
▼ BREVITY—Identify by IEN - 10597 if you write the maker ▼

ONLY BRIGGS & STRATTON HAS THE MODERN

Magnematic Ignition

(Patents Pending)

STANDARD EQUIPMENT ON MODELS 9 to 23



MAGNEMATIC IGNITION BREAKER BOX

Only parts ever requiring service or adjustment are contained in the breaker box.

A Dependable Spark For Better Engine Performance at ALL SPEEDS

Magnematic Ignition delivers a dependable spark at lower speeds and better engine performance at all speeds.

LONG SPARK PLUG LIFE — magneto output tailored to engine requirements — sparks only on firing stroke — voltage decreases as speed increases, substantially lengthening spark plug life.

AUTOMATIC SPARK ADVANCE — spark is retarded at starting speed and automatically advanced as engine speed increases.

QUICK, EASY STARTING — pull-up cranking with no danger of a "kick" during rope or hand cranking.

SEALED, WATERPROOF COIL — one piece, plastic insulated coil, fully sealed and waterproofed with molded-in high tension lead.

SIMPLE AND DEPENDABLE — no extra gears, bearings or lubrication system.

EASY TO SERVICE — only parts ever requiring service or adjustment accessible by removing breaker-box cover conveniently mounted outside crankcase.

Magnematic Ignition is another exclusive Briggs & Stratton development which is setting new standards of performance for single-cylinder, air-cooled engines.

Write for bulletin giving complete information on Magnematic Ignition and Briggs & Stratton engines.

BRIGGS & STRATTON CORP. Milwaukee 1, Wis., U. S. A.

4 CYCLE BRIGGS & STRATTON GASOLINE ENGINES — Physical Plant — Model Grade

In the automotive field Briggs & Stratton is the recognized leader and world's largest producer of locks, keys and related equipment.

▼ BREVITY—Identify by IEN - 10599 if you write the maker ▼

VALVE . . Diaphragm design for corrosive fluids, 1 to 4 in. sizes

Source: GRINNELL CO.
277 W. Exchange St., Providence 1, R. I.

Kel-F thermoplastic is employed in manufacture of a new diaphragm that applies with a cushion backing sheet in the company's Saunders patent diaphragm valve to handle corrosive fluids. Examples are chromic, hydrofluoric, nitric, sulphuric acids, chlorinated compounds. The valve itself is altered in the bonnet construction to take the new diaphragm and the backing sheet. The valve body is made of a metal suited for the given service or is lined with glass, lead, rubber, plastic.

Operation is on pressures to 100 pounds. Temperature should not exceed 225 deg. F. Flanged or threaded design is available, the former measuring about 6 to 13 in.; in the 1 to 4-in. sizes, between the flange faces of the valve.

▼ BREVITY—Identify by IEN - 10600 if you write the maker ▼

METAL TREATING . . Dip process finishes and corrosion proofs aluminum

Source: PYRENE MFG. CO.
8-12 Empire St., Newark 5, N. J.

Company supplies powder and test kit

Pyhmin trade names dip process employing a powdered material in solution in hot water held in a steel tank. Immersion for an interval produces a coating on aluminum that is attractive and also protects against corrosion. It can be left as the final coating or can be painted over.

▼ BREVITY—Identify by IEN - 10601 if you write the maker ▼

HEATING . . Bunsen burner with on-off flame-control hand rest

Source: HANAU ENGINEERING CO.
1229-35 Main St., Buffalo 8, N. Y.

Touch-O-Matic is a new assembly of bunsen burner with a pilot flame and a hand rest that also serves as a "touch" control to turn the main burner on and off. The rest can be turned to lock the burner open. Normally only the pilot remains burning. The burner uses any fuel gas, connects to a ¼ or ⅜ in. rubber tube. A cup for wax cats is added.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 10602 if you write the maker ▼

No. 5621 FIRM-GRIP
No. 5615 SMOOTH
LENGTH: 14 inches
GAUGE: .045-.055
COLOR: Brown
SIZES: 10-11-12

The outstanding value and hand safety specification throughout industry. Heavy gauge, steam-cured, high age-resistance and exceptional durability with extra heavy reinforcement at points of wear. Long and short gauntlets in heavy and lighter gauge styles with all-over smooth surface also available in genuine neoprene latex.

*Request sample and quotations.

SEIBERLING LATEX PRODUCTS COMPANY
AKRON 9, OHIO

▼ BREVITY—Identify by IEN - 10603 if you write the maker ▼

▶ 130" Extreme Lift
▶ 59⅝" Free Lift
▶ 60" Turning Radius

NEW

Mercury JEEP

MODEL 230
2000 Lb. Capacity
Tilting — Tiering

The most versatile fork truck of 2000 lb. rating. 130" lift with ample stability . . . 60" turning radius *plus* inclined automotive steering . . . foot pedal acceleration . . . convenient controls and many other design advancements. For complete details request Bulletin 230.

MERCURY MANUFACTURING COMPANY
4132 S. Halsted Street • Chicago 9, Illinois

▼ BREVITY—Identify by IEN - 10604 if you write the maker ▼

SPRACO NOZZLES

Write for NOZZLE CATALOG to
SPRAY ENGINEERING CO.
110 CENTRAL STREET • SOMERVILLE 45, MASS.

▼ BREVITY—Identify by IEN - 10605 if you write the maker ▼

Preferred for
PEAK PERFORMANCE
15 to 30 H. P
V-Type Four-Cylinder

Model VT-4, V-type 4-cylinder standard engine 21.5 hp. at 2400 rpm.

HEAVY-DUTY *Air-Cooled* **WISCONSIN ENGINES**

On power jobs that call for rugged serviceability and sustained operation in the 15 to 30 hp. range, Wisconsin 4-cylinder engines rate first preference on the basis of such features as:

Trouble-free Air-Cooling at all temperatures from sub-zero to tropical highs; tapered roller bearings at BOTH ends of the extended crankshaft to take up all thrust and radial loads (also inherently self-cleaning); rotary type, high tension OUTSIDE Magnets equipped with Impulse Coupling for quick starting in any weather and sure firing on the job; individual oil stream to each connecting rod (other parts lubricated by oil spray) assuring complete and thorough lubrication at all times.

V-type design permits a shorter crankshaft and less height than with a "straight-in-line" engine, assuring a more compact power unit.

4-cycle single cylinder models, 3 to 9 hp., and 2-cylinder models, 7 to 13 hp., also available. Detailed data on request.

WISCONSIN MOTOR CORPORATION
World's Largest Builders of Heavy-Duty Air-Cooled Engines
MILWAUKEE 14, WISCONSIN

▼ BREVITY—Identify by IEN-10606 if you write the maker ▼

▼ BREVITY—Identify by IEN-10607 if you write the maker ▼

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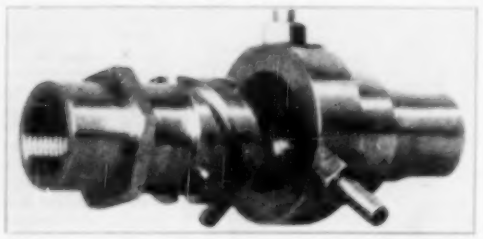
▼ BREVITY—Identify by IEN-10609 if you write the maker ▼

PIPE FITTING . . Self-seal coupling closes on quick line disconnection

Source: SPERRY PRODUCTS INC.
1002 Shelter Rock Road, Danbury, Conn.



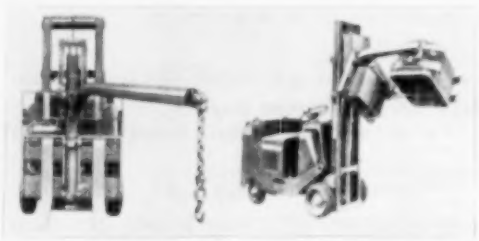
New cam-acting design in the company's line of self-sealing valve-equipped couplings for a pipe or hose line is shown in the illustration. The unit is similar to the threaded units in that each coupling half contains a spring-backed sliding valve which stands in closed position when the coupling is disconnected. The cam serves to pull the two halves together pressing both valves back at the same time in about a turn and one half. The halves lock in this position for free line flow. Seven turns are required in the threaded units, one of which carries not wings for hand operation. The other has wrench flats.

The coupling is available in a range of body metals and sealing materials to handle air, water, gas, corrosive liquids, oils, steam. It is made in 1, 1½, 2 and 3-in. sizes. Pressure drop is 8.5 lb. in the 1-in. size when handling liquids at 30 gpm. Test pressure at the bursting point are 3,750 lb. for the 1-in. unit, 750 lb. for the largest 3-in. coupling.

▼ BREVITY—Identify by IEN-10610 if you write the maker ▼

TRUCK . . Power attachments for load lifting, anneal pot handling

Source: TOWMOTOR CORP.
1224-28 E. 152nd St., Cleveland 10, Ohio



Power-swivel crane arm and rotating anneal-pot grab are new attachments for the company's Model LT-44 and LT-48 fork-lift trucks. The crane arm is stepped into a fixture on the elevating plate at the front of the truck and is attached to a power cylinder with which it is swung from one side to the other. It has capacity to 800 lb. on an 80-in. load center, is designed to assist in load handling in a box car.

The anneal pot grab is a combination of revolving lift carriage and hydraulically-operated gripping arms with special shoes to pick up a loaded irregularly-shaped annealing pot for movement to a shakeout table. The carriage is then revolved by power to invert the pot and thus empty it. This attachment has capacity to 2,000 lb. at 30-in. load center. Lift height on the Model LT-48 truck is 108 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN-10611 if you write the maker ▼

▼ BREVITY—Identify by IEN-10612 if you write the maker ▼

"Catsup ON YOUR ICE CREAM?"

Just because you used catsup on your steak, the waiter shouldn't assume you use it on the rest of your dinner too!

And just because one bearing is best lubricated by one particular grade of oil, you shouldn't assume that the same oil is best for *all* bearings on that machine. In many cases it isn't.

OIL CUPS permit you to lubricate each bearing with the oil best suited to that bearing—thus prolonging bearing life, reducing maintenance costs, cutting down-time, boosting production. And oil cups fortunately *cost very little*.

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LIGHTNIN PORTABLE MIXERS. World's largest selling line. Nearly 30 models from ⅙ to 5 H.P. Illustrated: Gear Drive, for fluids up to 4,000 cpp. Ask for Catalog 8-75.

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REPRESENTATIVES IN PRINCIPAL CITIES

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The ALCO-LITE Type 600 Aluminum Warehouse Ladder

The ALCO-LITE Type 600 weighs only 40 lbs. Rear legs are equipped with replaceable rubber-tired casters so that it can be quickly moved from place to place. Ideal for warehousing or general maintenance work. Can be supplied in folding type at no additional cost. Type 601 (not shown) has high handrail surrounding platform.

Write for Industrial Catalog containing specifications for the Type 600, as well as eight other types of ALCO-LITE Aluminum Ladders.

Pioneer Builders of Aluminum Ladders

ALCO-LITE ALUMINUM LADDERS

ALUMINUM LADDER COMPANY

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NEW LITERATURE

Brief reviews to advise you of available new information published by the manufacturers covering products they offer for your use. Identification, size of the material, information it contains so you can judge its value to you.

AWARDS ... Employee service emblems, safety awards; color examples. "Service Awards Promote Loyalty," [illegible] pages. American Emblem Co., 30 Ogden Blvd., Utica 1, N. Y. IEN-01291

BEARINGS ... Textile loom sheaves of maple with a Wooden bearing; drawings, standard sizes. Bulletin 10, 4 pages. Wakefield Bearing Corp., 20-27 Foundry St., Wakefield, Mass. IEN-01292

BORING ... Model 2 jig boring machine; general features, typical work, hole location, accessories. Bulletin B-[illegible], 24 pages. Moore Special Tool Co., 746 Union Ave., Bridgeport 7, Conn. IEN-01293

BROACHING ... Keyway cutting tools; specifications on units for 20 and 36 in. stroke machines. Bulletin [illegible], 4 sheets. Zagar Tool Inc., [illegible] Lakeland Blvd., Cleveland [illegible], Ohio. IEN-01294

BUILDINGS ... Stainless steel curtain walls; design points, installation details. "Stainless Service," 16 pages. Armco Drainage & Metal Products, 705 Curtis St., Middletown, Ohio. IEN-01295

BURNERS ... Atomizing types for fuel oil; models, flame types, capacity tables, air chart, accessories. Catalog 436, 8 pages. Hauck Mfg. Co., 120 Tenth St., Brooklyn 15, N. Y. IEN-01296

BURRING ... Rotary files in ground from the solid carbide; illustrated patterns, sizes. Bulletin TC-101, 12 pages. Charles L. Jarvis Co., 26 Pease Ave., Middletown, Conn. IEN-01297

CABLE ... Insulated electric cable, 2,000 to 17,000 volts; data on Anhydrex XX insulation. Bulletin 1000-A, 4 pages. Simplex Wire & Cable Co., 77-83 Sidney, Cambridge 39, Mass. IEN-01298

CAPACITORS ... Electrolytic and metallized paper units for electronic service; ratings, sizes, list prices. Catalog AC-2, 12 pages. Astron Corp., [illegible] Grant Ave., East Newark, N. J. IEN-01299

CASTERS ... Forged steel units, 175 to 2,500 lb. ratings; selection data, wheels, trucks. Catalog CT-20, 36 pages. [illegible] Co., 342 [illegible] Bldg., Grand Rapids 2, Mich. IEN-01300

CIRCUIT BREAKERS ... Type FZO-[illegible] circuit breakers to 69 kv.; operating details. Bulletin 71-B-[illegible], 8 pages. Allis-Chalmers Mfg. Co., 949 S. 70th St., Milwaukee 14, Wis. IEN-01301

CLEANING ... Application of abrasive blast machines to die castings; three uses. Bulletin 704, 12 pages. American Wheelabrator & Equipment Corp., 736 S. Byrkit, Mishawaka, Ind. IEN-01302

CLEANING ... Portable vacuum cleaner with 1½-hp. motor; specifications, attachments. Folder, 10, 4 pages. National Super Service Co., Toledo Factories Bldg., Toledo 3, Ohio. IEN-01303

CONNECTORS ... Type M electric plugs and receptacles; insert data, ratings. Bulletin M-2, 12 pages. Cannon Electric Development Co., 3207-11 Humboldt, Los Angeles 31, Calif. IEN-01304

CONSTRUCTION ... Steel channels to secure wood floors to concrete base; drawings, data. Catalog 11-1950, 8 pages. Loxit Systems, [illegible] W. Washington Blvd., Chicago 7, Ill. IEN-01305

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER ... Descriptions ... Ratings ... *See Page 50*

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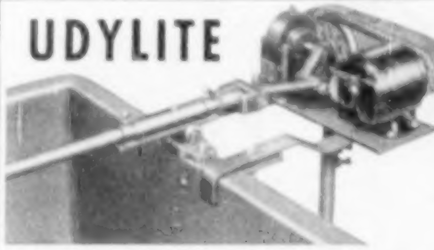
UDYLITE



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The Udylite Cathode Rod Agitator is compact, simple and dependable, and provides smooth, constant agitation of parts suspended in plating solution. This affords uniformly even plate distribution, allowing considerably greater plating current densities.

The Agitator is simple to install and operate. Maintenance is practically zero. A replaceable protective shoe fitted underneath the work rod takes all the wear, and a specially hardened roller carries the load.

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But, no premium is paid for this protection. Actually, you save through Winsmith's standardization ... the most complete line of stock units from fractional to 85 H.P. in the industry!

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$42 IN U.S.A.

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The RPM's stay up while grinding ... not only when the grinder runs idle.

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CONSTRUCTION ... [illegible] IEN-01307

CONTROLS ... [illegible] N. Y. IEN-01308

CONTROLS ... Pneumatic [illegible] Tulsa, Okla. IEN-01309

CONTROLS ... [illegible] Cleveland [illegible], Ohio. IEN-01310

CONTROLS ... Miniature motors [illegible] "Control Motors." [illegible] Philadelphia [illegible], Pa. IEN-01311

CONTROLS ... Condensed catalog data on temperature, voltage [illegible] Chicago [illegible], Ill. IEN-01312

CONVEYING ... Portable belt conveyor [illegible] Aurora, Ill. IEN-01313

CONVEYING ... [illegible] Detroit [illegible], Mich. IEN-01314

CONVEYING ... [illegible] Aurora, Ill. IEN-01315

CORROSION PROOFING ... [illegible] Buffalo [illegible], N. Y. IEN-01316

CRANES ... [illegible] Lorain, Ohio. IEN-01317

CUTTING ... Abrasive wheels [illegible] Chicago [illegible], Ill. IEN-01318

DIE CASTING ... [illegible] Detroit [illegible], Mich. IEN-01319

DISTILLING ... [illegible] Elizabeth [illegible], N. J. IEN-01320

DRIVES ... Worm gear speed reducers [illegible] Cleveland [illegible], Ohio. IEN-01321

DRIVES ... [illegible] Cleveland [illegible], Ohio. IEN-01322

DRIVES ... [illegible] Chicago [illegible], Ill. IEN-01323

DRIVES ... [illegible] IEN-01324

DRIVES ... [illegible] Reeves Pulley Co., [illegible] Columbus, Ind. IEN-01325

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Saves space—gives you top efficiency—built for heavy duty

★ Full force-feed lubrication of all working parts

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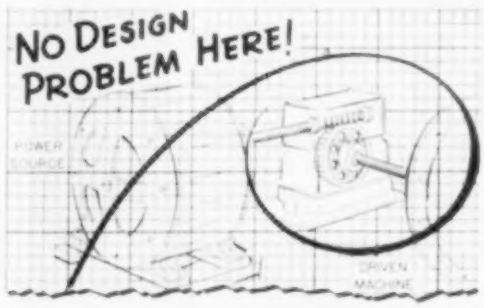

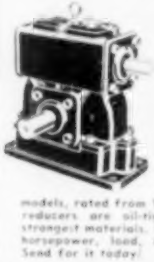

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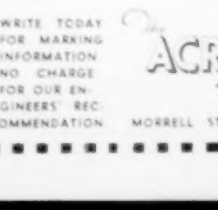

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NEW LITERATURE—Continued

"Subjects from Awards to Wrenches"

DRIVES . . . Flexible shaft sets, torque tachos, cutters and accessories, new Bulletin 3000, 16 pages. S. S. White Dental Mfg. Co., 10 E. 40th St., 23rd Flr., New York 16, N. Y. IEN-01338

DUST COLLECTING . . . Filtering cloth bag assemblies; filter-related information, handbook section. Bulletin 24 D, 12 pages. Pneumatic Mfg. Co., 900 N. Tilden, Milwaukee 12, Wis. IEN-01337

ELECTRONIC PRODUCTS . . . Tubes, parts, hardware, test equipment, communication sets; list prices 1950 Catalog, 252 pages. Lepel Radio Corp., 90-40 W. Jamaica, Chicago 7, Ill. IEN-01335

ELECTRONIC PRODUCTS . . . Type 9010 multiplier phototube, ratings, characteristic curves, note "Type 9010," 4 pages. Radio Corp. of America, 415-17 S. 5th St., Harrison, N. J. IEN-01336

ENGINEERING . . . Consulting service for research, testing, product development; details on scope. "All Under One Roof," 6 pages. Pope, Evins & Dyer, 42-46 Trinity Place, New York 6, N. Y. IEN-01339

ENGINES . . . "Deadfoot" free-cycle diesel, 750 to 2,100 h.p.; diesel-electric, fuel-feed details. Bulletin 177, 8 pages. Nordberg Mfg. Co., 3601 S. W. Chase Ave., Milwaukee 1, Wis. IEN-01331

FASTENINGS . . . Locknuts in a variety of materials and mounting arrangements; drawings, dimensions, specs. Catalog 74, 8 pages. Scott Aviation Nut Corp., 36 Lake St., Stamford, Conn. IEN-01337

FASTENINGS . . . Bifurcated rivets, power punch Permanent, socket-type, design specs. Folder BCO-12, 6 pages. Scott Chester Corp., 100 E. Filmore Bldg., Philadelphia 2, Pa. IEN-01331

FENCE . . . Chain link fence of copper-bearing steel wire, materials, applications, accessories. Catalog 120, 24 pages. Copperweld Steel Co., Frick Bldg., Pittsburgh, Pa. IEN-01330

FILTERING . . . Plant gas filter presents, uses and operation; tables relative cost chart for three types. "Filter Presses," 4 pages. D. R. Sperry & Co., 30 River Road, Batavia, Ill. IEN-01335

FLOORS . . . Metal ring to bridge gap between car and platform; details on uses and measurement methods. "Ramps," 4 pages. Ohio Engineering Co., 222 E. 2nd St., San Francisco 7, Calif. IEN-01330

GAGES . . . For liquid level and pressure, also gage valves, stand-off brackets, ratings, accessories. Bulletin 110, 4 pages. Jerguson Gage & Valve Co., 90-97 Emerald, Somerville 45, Mass. IEN-01331

GASES . . . Data on 71 gases from acetylene to xenon; other, one page, regulators. "Compressed Gases," 16 pages. Mathesons Co., 350 Paterson Plank Rd., East Rutherford, N. J. IEN-01334

HANDLING . . . Portables in 5-g to 250-lb capacities, hand or gas, stiffleg, and mirror types. Catalog 200 D-1, 36 pages. American Hoist & Derrick, 81 S. Robert St., Paul 1, Minn. IEN-01339

HANDLING . . . Corrugated steel skids, boxes, pallets; illustrated designs, modifications. Catalog 11, 24 pages. Tubos Metal Mfg. Co., 1440-54 Magee Ave., Canton 5, Ohio. IEN-01330

HEAT TREATING . . . Time-temperature-gas annealing furnace; performance results. Bulletin 50-110, 4 pages. Surface Combustion Corp., 2375-77 Dorr St., Toledo 1, Ohio. IEN-01331

HEATING . . . Blower-type unit heaters to 1,150,000 btu.; capacity tables, dimensions, mountings. Catalog 402, 8 pages. Airtherm Mfg. Co., 535 S. Spring Ave., St. Louis 10, Mo. IEN-01332

HEATING . . . Gas-fired air heaters for crops and dryers, drawings, dimensions, construction points. Bulletin 520, 4 pages. Gehnrich Oven Div., 198-202 Eliot St., Fairfield, Conn. IEN-01332

HOISTS . . . Chain hoists in hand and power models; capacity tables, list prices, trolleys, winches. Condensed Catalog, 8 pages. Harrington Co., 1020 Cathcart St., Philadelphia 30, Pa. IEN-01331

INTENSIFIERS . . . For hydraulic output to 10,000 lb.; operating details, circuits, calculations. Bulletin E-300, 32 pages. Miller Motor Co., 602-32 N. Kedzie Ave., Chicago 18, Ill. IEN-01335

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 66

▼ BREEZY—Identify by IEN-10632 if you write the maker ▼

A News Advertisement by Kollmann Mfg. Co.

CLEANS DRAIN AND SUPPLY LINES

. . . Advanced design machine features instant-acting clutch and sectional cables for fast, SAFE operation by one man. Cuts maintenance costs and "down" time.

Source: KOLLMANN MANUFACTURING CO.
4850 Peach St., Erie, Pa.

This 1951 portable, electric power machine is ideal for clearing obstructions from underground or overhead drains and supply lines. Adaptable to 6 cable sizes and to all pipe sizes from 1½" to 12". Handles up to 200' of cable at 700 R.P.M. under instant control.

Convenient 15' sections of tempered steel cable, couple and lock instantly and are enclosed by guide hose. There is no unwieldy cable length to damage operating area or injure operator.

Patented instant-acting clutch provides finger-tip control for starting, stopping and reversing. Cutters and cables clear any combinations of traps, elbows and bends in sewer or industrial drains, contractor lines, connected or exposed downspouts and supply lines. Easily carried and operated by one man, machine can be passed through an opening 14 by 22 inches and needs only 5 sq. ft. of floor space. Quickly pays for itself through reduced maintenance costs and less out-of-service time. For full details and name of nearest distributor, write Kollmann Manufacturing Company, 4850 Peach St., Erie, Pa., or use the enclosed Reader Service Form.

▼ BREEZY—Identify by IEN-10633 if you write the maker ▼

BE FRESH STAY FRESH

Wear a

DUPOR No. 46

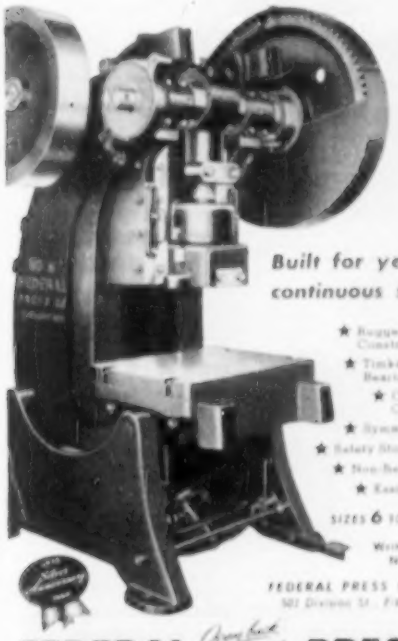
U.S.B. of M. APPROVED RESPIRATOR FOR TYPE "A" AND LEAD DUSTS

More than 46 sq. in. filtration area. Soft rubber face mask. U.S.B. of M. Approval BM-2124 for LEAD Dusts and ALL other toxic or poisonous dusts as well as Type A (Pneumoconiosis or Silicosis producing dusts). Unit has exclusive controlled breathing valves to guard against stale air. Maximum visibility—no interference with goggles or glasses.

Sample seal $2.50 pp

H. S. COVER
South Bend, Ind.

▼ BREEZY—Identify by IEN-10634 if you write the maker ▼



Built for years of continuous service

★ Rugged Precision Construction
★ Timken Flywheel Bearings
★ Oversized Crankshaft
★ Symmetrical Ram
★ Safety Stop
★ Non-Repeat Clutch
★ Easily Adjusted

SIZES 6 TO 80 TONS

Write for New Catalog

FEDERAL PRESS COMPANY
901 Division St., Elkhart, Ind.

FEDERAL Quality Built PRESSES

35 YEARS OF QUALITY CONSTRUCTION

▼ BREEZY—Identify by IEN-10635 if you write the maker ▼

The Answer is often:

USE

SHAF-TITE* ROLLS

Many Patented Constructions

Choice of

METAL, RUBBER, or WOOD ROLLS

Send For NEW ROLL CATALOG No. 48

INDUSTRIAL ROLL DIVISION

RODNEY HUNT MACHINE CO.

873 Main Street Orange, Mass., U.S.A.

*Reg. U. S. Pat. Off.

▼ BREVITY—Identify by IEN-10636 if you write the maker ▼

More heat for less money

Make next winter a season of heat-saving instead of heat-wasting. Savings with Thermoliers differ, of course, with differences in buildings, but a railroad shop saved 35%, one manufacturer, 29% and a company operating 50 plants averaged 30%. Your savings with Thermoliers may be even larger. Get in touch with Grinnell or your local Thermolier distributor.

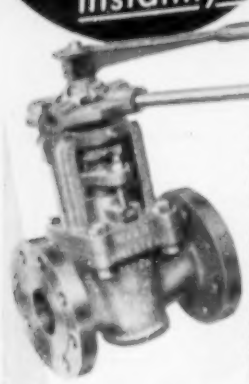
Four Types for any operating condition

GRINNELL

Grinnell Company, Inc. Providence 1, R. I. Branches: Atlanta • Billings • Buffalo • Charlotte • Chicago • Cleveland • Fresno • Kansas City • Houston • Long Beach • Los Angeles • Milwaukee • Minneapolis • New York • Oakland • Philadelphia • Portland • Sacramento • St. Louis • St. Paul • San Francisco • Seattle • Spokane

▼ BREVITY—Identify by IEN-10637 if you write the maker ▼

This HOMESTEAD VALVE Opens or Closes Instantly



It's STICK-PROOF because it's LEVER-SEALD

HOMESTEAD LEVER-SEALD QUARTER-TURN VALVES are first choice where extremes of temperature, pressure, or corrosive fluids cause ordinary valves to "stick" or "seize."

They are "stick-proof" because built into each valve is a lever-and-screw device that prevents sticking and assures positive action under all conditions.

They operate 15 to 28 times faster than screw-down type valves. They are ideal for installation in restricted areas, where other types of valves could not be used. Next time specify Homestead LEVER-SEALD Quarter-Turn Valves. You'll never be satisfied with ordinary valves again.

Homestead Lever-Seald Quarter-Turn Valves are available in metals and alloys to suit your needs in sizes from 1½" to 10", for pressures from vacuum to 1500 lbs.

HOMESTEAD VALVE MANUFACTURING CO.
"Serving Since 1892"

P. O. BOX 85, CORAOPOLIS, PA.

▼ BREVITY—Identify by IEN-10638 if you write the maker ▼

Costs Going Up?

Put them down with Sterling Six Speed electric power drives.

STERLING ELECTRIC MOTORS

NEW LITERATURE—Continued

"Condensed reviews for busy readers"

IRON . . . Hand-polished wrought iron: uses, weights, list prices of bars, shapes. Data. Pocket catalog, 24 pages. Lockhart Iron & Steel Co., 36 McKees Rocks Rd., Pittsburgh 20, Pa. IEN-01348

LATHES . . . Single spindle automatic machines: construction, specifications. "30," 3/4" and 1/2" A." 8 pages. Universal Automatic Machine, 6900-24 Busch, Cincinnati 12, Ohio. IEN-01347

LATHES . . . Semi-Gridley semi-machine threading tools and machine exclusive: continuous data. "Index SA-1." 24 pages. National Acme Co., 170 E. 131st St., Cleveland 8, Ohio. IEN-01349

LATHES . . . Model C turn-covered lathe: 12½ hp. 18 in.: description, typical operating costs. Bulletin 602, 12 pages. Pratt & Whitney, 10 Charter Oak Blvd., West Hartford 1, Conn. IEN-01341

LUBRICATING . . . Centralized automatic lubricating equipment: description, examples. Booklet, 12 pages. Trabon Engineering Corp., 1111 E. 60th St., Cleveland 3, Ohio. IEN-01350

MAGNETS . . . Permanent type: formed or cast; selection suggestions, properties chart on 10 materials. Booklet, 8 pages. Permanent Magnet Co., 1435-39 "G" St., Lawrence, Ind. IEN-01351

MELTING . . . Glue pots with thermostatic control: illustrated construction, models. Pocket folder SW-58, 6 pages. Sta-Warm Electric Co., 500 N. Chestnut St., Ravenna, Ohio. IEN-01352

METAL SPRAYING . . . Contract service to repair or corrosion-proof metal parts: photo examples. "Metallizing," 4 pages. Metalwood Inc., Hunting Park Ave. & 20th, Philadelphia 20, Pa. IEN-01353

METAL TREATING . . . Phosphate-coating chemicals and methods: application procedure, examples of use. Bulletin 203, 8 pages. American Chemical Paint Co., Box 400, A, Ambler, Pa. IEN-01354

METERS . . . Portable potentiometer: dc and ac currents to 100 milliamps—construction, ranges. Bulletin 77-18-A, 4 pages. Walter A. Carlson Products, 8-12 Mill St., Belleville 9, N. J. IEN-01355

MIXING . . . Two agitator steam-jacketed mixing kettle: action diagram, models, agitators. Bulletin AK-1, 4 pages. Groen Mfg. Co., 4007 W. Armitage Ave., Chicago 39, Ill. IEN-01356

MIXING . . . Horizontal ribbon agitator units: also sifters, vertical mixers: data summaries. Catalog 32-F, 24 pages. Mercer Rubber Co., 40 Church St., 4th Flr., New York 7, N. Y. IEN-01357

MIXING . . . Tilting drum cradle equipped with rollers and motor to mix drum contents: description. Leaflet 348-30, 2 pages. Mercer Mfg. Co., 120-24 Dickerson St., Syracuse 2, N. Y. IEN-01358

MIXING . . . Equipment for process use: description, suggested power requirements. Bulletin 101-A, 16 p. 6 pages. Process Industries Engineers, 1020-43 Payne Blvd., Pittsburgh 6, Pa. IEN-01359

MOTORS . . . For dc service, ½ to 300 hp., also 1 to 150 kw. generators: construction. Bulletin B-1001, 4 pages. Star Electric Motor Div., 202 Boonsfield Ave., Boonsfield, N. J. IEN-01360

NUMBERING . . . Hand machines: time stamps, dates, specifications, print examples. Catalog 30, 24 pages. Roberts Numbering Machine Co., 202 Jamaica Ave., Brooklyn 8, N. Y. IEN-01361

PAINTING . . . Protective materials for metal priming and masonry: properties, preparation. Folder, 4 pages. David K. Long Corp., 220 E. 42nd St., 20th Flr., New York 17, N. Y. IEN-01362

PAINTING . . . Conveyors, parts markers, ovens, paint application equipment: data summaries, examples. Catalog, 32 pages. Gerstenslager Co., 1402 N. Western Ave., Chicago 22, Ill. IEN-01363

PHASE CONVERTER . . . From single to three phase supply: 220 volts: data on 3 to 25 hp. models. Bulletin, 4 pages. Henry Electric Co., 30 Industrial Blvd., Stamford, Mich. IEN-01364

PLATING . . . Rectifiers, regulators, automatic controllers, controls: data summaries. "Electrical Equipment," 16 pages. Udylite Corp., 1000 St. E. Grand Blvd., Detroit 11, Mich. IEN-01365

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 30

▼ BREVITY—Identify by IEN-10639 if you write the maker ▼

CHIKSAN
High Pressure
Ball-Bearing SWIVEL JOINTS

Made in 8 different styles for rotation in 1, 2 and 3 planes; in sizes from ⅜" to 5"; for pressures to 3,000 psi. and temperatures to 225° F. Easy turning throughout 360° on double rows of ball bearings in flame-hardened races. Supplied with Packing Units to meet your specific needs.

There is a CHIKSAN Swivel Joint for every need

CHIKSAN COMPANY
AND SUBSIDIARY COMPANIES
Chicago 2, Ill. BREA, CALIFORNIA Newark 2, N. J.
WELL EQUIPMENT MFG. CORP. HOUSTON 1, TEXAS
CHIKSAN EXPORT CO. BREA, CALIFORNIA NEWARK 2, N. J.

BALL-BEARING SWIVEL JOINTS FOR ALL PURPOSES

▼ BREVITY—Identify by IEN-10640 if you write the maker ▼

When pipe joints MUST NOT LEAK

USE Plasgon

Plasgon, the plastic adhesive and pipe joint cement, will make your pipe joints permanently leakproof. Easy to apply right from the tube. Remains flexible to withstand shock or jarring. Proof against oil, gasoline, kerosene, water, steam. Resists heat up to 350° F and stands considerable pressure.

You can use Plasgon to make plastic, easily-moulded gaskets or as an adhesive to bind porous or non-porous surfaces.

FREE SAMPLE of Plasgon and complete information. *Write today!*

Samuel Cabot, Inc.
1155 Oliver Bldg., Boston 9, Mass.

▼ BREVITY—Identify by IEN-10641 if you write the maker ▼

IT'S HERE!

Grafo R-3

A Smokeless Colloidal Graphite

FORGING COMPOUND

that

Increases die life
Insures surface quality
Eliminates fire hazards

A WORKING SAMPLE SENT ON REQUEST

Other Grafo Colloidal Products Available For All Industrial Lubrication

"Grafo" Colloidal Graphite may be obtained in water, petroleum oil, castor oil, in concentrated, semi-concentrated and ready-to-use mediums.

Write Us Regarding Your Special Applications

GRAFO COLLOIDS CORPORATION

MANUFACTURERS OF Grafo COLLOIDAL PRODUCTS

SHARON, PENNSYLVANIA

▼ BREVITY—Identify by IEN-10642 if you write the maker ▼

YOU SAVE TIME AND MONEY
TESTING IN YOUR OWN SHOP

(TENSILE · COMPRESSION · FLEXURE · SHEAR · TRANSVERSE)

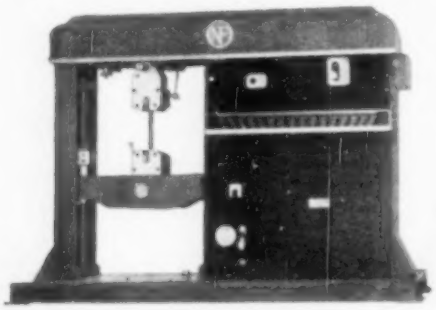


Table UNIVERSAL TESTER

The new Table Universal Tester—length 64", height 42", depth 18", weight net 1,250 lbs.—is rugged, economical in cost and maintenance. Operation is simple, no special training required. Fast, and accurate to A.S.T.M. standards, suited for production-line testing or laboratory programs.

1. Load ranges: 0-10,000, 0-4,000, 0-600 lbs.—or 0-15,000, 0-3,000, 0-300 lbs. Lever and calibrated bar weighing system result in sustained accuracy. All load speeds infinitely variable. Convenient Controls. Stroke is 15", work clearance between screws—20".

For Full Information, Write TESTING MACHINE DIVISION

NATIONAL FORGE AND ORDNANCE COMPANY

Dept. E.N. Irvine, Warren County, Penna.

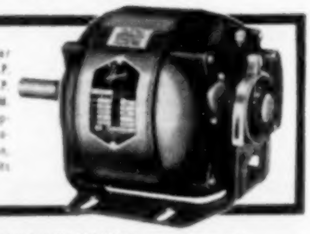
▼ BREVITY—Identify by IEN-10643 if you write the maker ▼

When your reputation depends on HOT AIR

HOOVER

ELECTRIC MOTORS

When winter comes and cold houses call for ready warmth, a furnace's good name depends not just on heat generated but on heat *delivered where it's needed*. That's why so many forced warm-air systems rely on blowers powered by Hoover Motors specially built for long, quiet, dependable furnace blower service. There are other Hoover Motors for other needs. Write today for details.

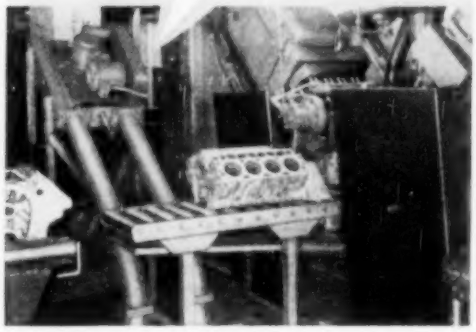


Hoover Furnace Blower Motors from 1/6 thru 1/3 H.P. split-phase, 1/3 thru 3/4 H.P. capacitor-start. 1725 R.P.M. NEMA mounting. U.L. approved. Dripproof, automatic thermal protection, designed for 40°C. rise. Gits oilers. Resilient base.

THE HOOVER COMPANY, North Canton, Ohio
Kingston-Conley Division
78 Brook Avenue, North Plainfield, New Jersey

▼ BREVITY—Identify by IEN-10644 if you write the maker ▼

Fine Car Manufacturer SELECTS Houdaille CONVEYOR to solve difficult chip removal problem



Because it is readily adaptable to almost any space or traverse requirement, Houdaille Conveyor solved an almost impossible chip removal problem at this large motor car plant. Conveyor has been in continuous operation for more than a year without shut-down or maintenance attention. Installation paid for itself in one year. Write for this revealing case history today!

Houdaille will do the job for YOU!

Houdaille Conveyor's automatic loading and continuous materials transport is adaptable to handling any solid or fibrous material which will settle to the bottom of a tank or hopper. Suggested uses are:

METAL WORKING INDUSTRY
Cast Iron Dust and Chips
Aluminum Dust and Chips
Abrasive Sludge
Scale resulting from: quenching, metal cleaning, steel rolling, brass rolling, aluminum rolling, wire drawing

MATERIAL FROM DUST COLLECTORS
PLASTIC POWDERS
PACKING PLANTS
Cracklings
Other By-Products
SOAP MANUFACTURING
Powders, Chips, Etc.
MANY OTHERS

Licensed under Hapman's Patents Nos. 1,147,199 and 2,432,750

*Pronounced Hoo-Dye

For case histories and full information on Houdaille Conveyors, write to 802 Wabash Avenue, Lebanon, Indiana.

Honan-Crane Corp. A Subsidiary of **Houdaille-Hershey Corp.**

NEW LITERATURE—Continued

"Note the 'O' numbers on literature"

PRESS TOOLS . . . Leader pin sleeves for dies, die set pockets, drill rod rack; condensed data. Folder, 4 pages. Arro Metal Stamping Co., 336-40 E. Reservoir, Milwaukee 12, Wis. IEN-01366

PRESS TOOLS . . . Cast zinc-alloy dies for experimental and short-run work; illustrated examples. "Alite Dies," 4 pages. [illegible] Products Corp., 13933-79 Hart Rd., Detroit 35, Mich. IEN-01367

PRESS TOOLS . . . Automatic unloader for press or other machines; operation, models, benefits. "Iron Hand," 8 pages. Sahlin Engineering Co., 282-88 Ferndale St., Birmingham, Mich. IEN-01368

PRESSES . . . Open-back inclinable presses; specifications on 3 to 85-ton models. Bulletin P-600, 8 pages. Sales Service Machine Tool Co., 2363-65 University Ave., St. Paul 4, Minn. IEN-01369

PRINTING . . . Electric typewriter for continuous paper forms; operating steps. Form 52-8248-0, 4 pages. International Business Machines, 590 Madison, 16th Fl., New York 22, N. Y. IEN-01370

PROCESSING . . . Ultrasonic equipment; specifications on laboratory and pilot plant models. Folder F-267, 4 pages. Brush Development Co., 3405 Perkins Ave., Cleveland 14, Ohio IEN-01371

PROCESSING . . . Equipment for coal processing; data on components, pumps, drives. Catalog 350, 32 pages. McNally Pittsburg Mfg. Corp., 3206-12 Langdon, Pittsburg, Kansas IEN-01372

PROCESSING . . . Condensed list of equipment made by the company and literature available. "Index 8K-1," 4 pages. Schutte & Koerting Co., 1257 N. 12th, Philadelphia 22, Pa. IEN-01373

PULVERIZING . . . Jar and ball mills, drum tumbling and mixing machines, jars, balls; catalog data. Bulletin 265, 20 pages. U. S. Stoneware Co., Brimfield Road, Akron 9, Ohio IEN-01374

PUMPS . . . Condensed selection data on centrifugal pumps; capacity charts and tables. Bulletin 52-B-6036, 16 pages. Allis-Chalmers Mfg. Co., 988 S. 70th St., Milwaukee 14, Wis. IEN-01375

PUMPS . . . Type GS centrifugal pump to 400 gpm; details on replaceable valve assembly. Bulletin 3001, 8 pages. De Laval Steam Turbine Co., 821-35 Nottingham Way, Trenton 2, N. J. IEN-01376

PUMPS . . . Self-priming centrifugal, ¾ to 5 hp; operating principle, sectional drawings, rating tables. Bulletin 800.1, 8 pages. Gould Pumps Inc., 301 Fall St., Seneca Falls, N. Y. IEN-01377

PUMPS . . . Hydraulic power units, 200 to 1,000 lb., 1/8 to 25 hp.; performance data, dimensions. Catalog 200.1, 4 pages. Logansport Machine Co., 912 Center Ave., Logansport, Ind. IEN-01378

PUMPS . . . Flexible-liner rotary pump for corrosives; section, description, ratings. "Flex-i-liner," 4 pages. Vanton Pump Corp., 520 Fifth Ave., Rm. 1308, New York 1, N. Y. IEN-01379

ROCK DRILLING . . . Construction tools including moil points, chisels, sinkers, wrenches, use prices. Bulletin CT-750, 8 pages. Arrow Tools Inc., 1965 S. Kostner Ave., Chicago 23, Ill. IEN-01380

ROCK DRILLING . . . Portable pneumatic tools; specifications on three models. Bulletin H-1200-B6B, 8 pages. Worthington Pump & Machy. Corp., 422 Worthington, Harrison, N. J. IEN-01381

SCAFFOLDS . . . Aluminum sectional units, rolling design; component details, typical assemblies. Bulletin PSS-22, 4 pages. Patent Scaffolding Co., 38-21 12th St., Long Island City 1, N. Y. IEN-01382

SCREENING . . . "Gyro-Centric" machines for wet and dry materials; models, uses. Catalog 307, 28 pages. Patterson Foundry & Machine Co., 28-80 Goodyear St., East Liverpool, Ohio IEN-01383

SEALING . . . Packing adapters of bronze for air or hydraulic V-type packings; drawings, dimension tables. "BOOgers Adaptors," 4 pages. Gilson Co., 75-77 E. Wacker Dr., Chicago 1, Ill. IEN-01384

SEPARATING . . . Machine to remove floating oil from surface of other liquids; description. "IMF Oil Separator," 4 pages. Industrial Metal Fabricators, 8845-52 Lyndon, Detroit 21, Mich. IEN-01385

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . *See Page 50*

▼ BREVITY—Identify by IEN-10646 if you write the maker ▼

A News Advertisement by Glycerine Producers' Association

GLYCERINE IN INDUSTRY

. . . 5 new booklets describe Glycerine's wide range of industrial application. Data on chemical and physical properties also included.

Source: GLYCERINE PRODUCERS' ASSOCIATION
Dept. 32, 295 Madison Ave., New York 17, N. Y.

Here's new information on one of the most versatile products in the service of industry! Compiled by the Glycerine Producers' Association, these easy-to-read, informative booklets offer a wealth of information to the production man as well as the research technician. Whether you now use Glycerine or merely wonder about its possibilities—one of these will tell where it fits in *your* business!

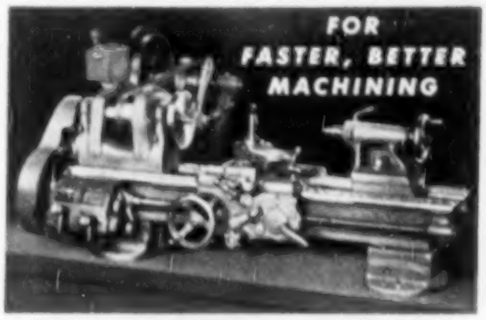
"WHY GLYCERINE?" (A general survey of all industrial applications)
"WHY GLYCERINE FOR ALKYD RESINS AND ESTER GUMS?"
"WHY GLYCERINE FOR DRUGS AND COSMETICS?"
"WHY GLYCERINE FOR FOODS?"
"WHY GLYCERINE FOR TEXTILES?"

All five contain pertinent information on the physical and chemical properties of Glycerine . . . its origin and development . . . grades and their applications. Practical useful data covering specific industries . . . as well as comprehensive tables and graphs. Booklets range from 12 to 16 pages and are illustrated throughout. Copies may be obtained free of charge by writing the publisher, Glycerine Producers' Association, Dept. 32, 295 Madison Ave., New York 17, N. Y. or by using the enclosed Reader Service Form.

▼ BREVITY—Identify by IEN-10647 if you write the maker ▼

SOUTH BEND

9" PRECISION LATHES



South Bend 9" Precision Lathes are built to produce faster and do better machining. We sincerely believe that no other lathe of comparable size and price can meet the requirements of modern industry as well. A South Bend 9" Lathe will handle your small, precision machining jobs efficiently.

Prices of South Bend 9" Precision Lathes start at $176.00, f.o.b. factory. We also manufacture larger Lathes; 14" Drill Presses and 7" Bench Shapers. It will pay you to investigate South Bend Machine Tools. Write for catalog today!

SOUTH BEND LATHE
SOUTH BEND 22, IND. • *Building Better Tools Since 1906*

▼ BREVITY—Identify by IEN-10648 if you write the maker ▼

Dick 960 A B Dick 960 A B Dick 960
MIMEOTYPE · MIMEOGRAPH · MIMEOTYPE

NEW A. B. DICK MIMEOGRAPHS

black-on-white **COPIES** or colored copies of anything typed, written or drawn . . .

produced **FAST** on most all paper and card stocks at speeds ranging up to 180 copies per minute . . .

and **EASY** on today's A. B. Dick mimeographs with many new features and improvements for more efficient operation.

WRITE TODAY for full details

A B DICK COMPANY
5700 Touhy Ave. • Chicago 31, Illinois
For use with all makes of suitable stencil duplicating products.

▼ BREVITY—Identify by IEN-10649 if you write the maker ▼

The new, improved Ansul Model "B" Extinguishers have the greatest fire-killing ratings* ever attained by hand portable fire extinguishers. In addition, WATER-TIGHT CONSTRUCTION, (Exclusive with ANSUL) has resulted in far greater dependability than any other dry chemical extinguisher.

Exclusive Features: Patented Nozzle assures most effective stream pattern. . . . Best results by inexperienced operators. Corrosion resistant construction throughout. Easy on-the-spot Recharging (No tools needed). Ansul "PLUS-FIFTY" Dry Chemical used exclusively. Field tested by thousands of satisfied customers.

Send for file No. 629. You will receive a variety of helpful printed matter. Included is our latest catalog.

**Factory Mutual Laboratory Reports of Examinations and Tests.*

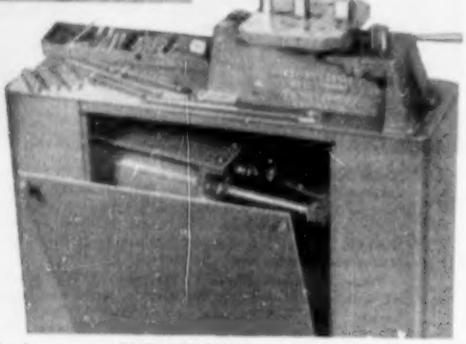
ANSUL CHEMICAL COMPANY
FIRE EXTINGUISHER DIVISION • MARINETTE, WISCONSIN
DISTRIBUTORS IN ALL PRINCIPAL CITIES IN THE U. S. A., CANADA AND OTHER COUNTRIES

▼ BREVITY—Identify by IEN-10650 if you write the maker ▼

THE FAMOUS MULTIFORM BENDER CUTTER

Produces Without Special Tooling — Saves Die Costs Saves on Expensive Presses

The illustration at the left shows just a few pieces produced on our famous Multiform Bender-Cutter. This efficient machine is useful in all lines of trade.



No. 5 Air Model FIVE-IN-ONE-TOOL IT BENDS FLAT AND TUBULAR STOCK INTO ANY SHAPE. CUTS AND PUNCHES FLAT STOCK

J. A. RICHARDS CO. 907 NORTH PITCHER ST. KALAMAZOO 60F, MICH.

NEW LITERATURE—Continued

"Alphabetically to assist in finding"

SEPARATING ... Pneumatic classifier for powders, fine material; flow sheet: "Dual Cone Fractionator." 8 pages. Prater Pulverizer Co., [illegible] S. 55th Ct., Chicago 50, Ill. IEN-[illegible]

SEPARATING ... Continuous centrifuges; condensed data on 7 models, operating detail drawings. Bulletin 1250, 8 pages. Sharples Corp., 2301 Westmoreland St., Philadelphia 40, Pa. IEN-[illegible]

SHAPING ... [illegible] 12 and 16 in. machines; construction details, specifications. Catalog 5021, 8 pages. [illegible] Machine Tool Works, [illegible] Lake St. E., Holland, Mich. IEN-[illegible]

SIGNALING ... Photo-electric units for smoke density, signaling alarms; specifications. Catalog 106, 8 pages. [illegible] Laboratories, [illegible] N. Clark St., Chicago 10, Ill. IEN-[illegible]

STOKERS ... For boilers and package-type steam generators; illustrated models and uses. Bulletin 301, 4 pages. Detroit Stoker Co., [illegible] General Motors Bldg., Detroit 2, Mich. IEN-[illegible]

STORING ... Steel lockers for employees; illustrated locker-room assemblies, models, features. Folder SE-1, 4 pages. Penn Metal Corp. of Pa., 50 Oregon Ave., Philadelphia 48, Pa. IEN-[illegible]

STORING ... "Accountal" steel cabinets for tabulating-card storage; mobile accessories. Bulletin LBV-141, 8 pages. Remington Rand, 315 Fourth Ave., Box 1018, New York 10, N. Y. IEN-[illegible]

STRAIGHTENING ... Machines for metal bars and shapes; data summaries on these and other machines: "Medart Machines." 4 pages. Medart Co., 102 Potomac St., St. Louis 18, Mo. IEN-[illegible]

STRIPPING ... Materials for organic finishes; data on quick-evaporating and water-miscible types. Folder "Strippers," 4 pages. Enthone Inc., [illegible] Elm St., New Haven 2, Conn. IEN-[illegible]

TESTING ... "Hypot" electrical insulation breakdown test units (to 30 kv.); models, ratings. Bulletin [illegible], 4 pages. Associated Research, Inc., [illegible] W. Belmont Ave., Chicago 18, Ill. IEN-[illegible]

TESTING ... Instrument to measure dew point of a gas; operation, design features. Bulletin 301, 4 pages. Illinois Testing Laboratories, [illegible] N. LaSalle St., Chicago 10, Ill. IEN-[illegible]

TESTING ... "Lumetron" photoelectric instruments; construction and application data. Bulletin 400, 4 pages. Photovolt Corp., 95 Madison Ave., Box 1102, New York 16, N. Y. IEN-[illegible]

THERMOCOUPLES ... In base and noble metals; descriptions, protection tubes, accessories. Catalog 3, 16 pages. Arklay S. Richards Co., 72 Winchester St., Newton Highlands 61, Mass. IEN-[illegible]

THERMOCOUPLES ... In base and noble metals, also extension leads; descriptions, tables. Catalog 25, 24 pages. Industrial Pyrometer & Supply Co., [illegible] St., Alton, Ill. IEN-[illegible]

THERMOMETERS ... Indicating and recording; [illegible] data on five models with ranges, bulbs. Bulletin [illegible], 4 pages. [illegible], Toledo 1, Ohio. IEN-[illegible]

THERMOMETERS ... Dial type for industrial and laboratory use to 1000 deg. F.; models, ranges. Folder [illegible], 4 pages. Rochester Mfg. Co., 100 Rockwood St., Rochester 10, N. Y. IEN-[illegible]

TRANSFORMERS ... Dry type units, 1 to 1000 kva.; illustrated review of models, features, ratings. Bulletin 130, 12 pages. R. E. Uptegraff Mfg. Co., [illegible] Bridge St., Scottdale, Pa. IEN-[illegible]

TRAPS ... Steam and air traps for pressures to 600 lb.; sectional views, sizes, selection. Bulletin [illegible], 4 pages. V. D. Anderson Co., [illegible] Ave., Cleveland 13, Ohio. IEN-[illegible]

TRUCKS ... Hand and motorized pallet trucks; models, suggestions on pallet design and handling. Bulletin [illegible], 16 pages. Barrett-Cravens Co., [illegible] S. Western Ave., Chicago 9, Ill. IEN-[illegible]

TRUCKS ... "Hydromatic" hand lift truck, 2,500 to 8,000 lb.; mechanism, construction. Folder [illegible], 4 pages. Lift Trucks Inc., [illegible] Spring Grove Ave., Cincinnati 14, Ohio. IEN-[illegible]

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER ... Descriptions ... Ratings ... See Page 38

▼ BREVITY—Identify by IEN-10654 if you write the maker ▼

Check! the effects of TEMPERATURE and RELATIVE HUMIDITY

✔ on workers
✔ machine output
✔ assembly parts

with the BENDIX-FRIEZ Model 160

Portable Humidity and Temperature Recorder

Relative Humidity and Temperature play vital roles in your plant's productive capacity—a check of your plant's output against a record of these two factors will demonstrate this beyond question. With the Bendix-Friez portable humidity and temperature recorder, 10 or 30 hour records may be kept on 3" x 5" charts. Modern in design, handy for small space, this instrument is ideal for making on-the-spot recordings.

Watch for two new Bendix-Friez humidity control units which soon will be available.

WRITE:

FRIEZ INSTRUMENT DIVISION of Bendix Aviation Corporation
1328 Taylor Avenue
Baltimore 4, Maryland
Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N.Y.

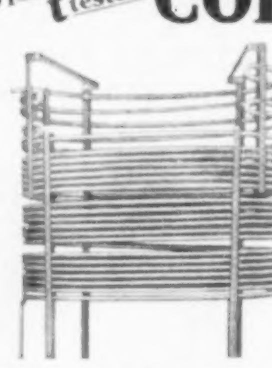
▼ BREVITY—Identify by IEN-10651 if you write the maker ▼

GENERAL BOX COMPANY ..
★ ★ ★ ★ ★ engineered shipping containers

GENERAL OFFICES: 508 N. Dearborn St., Chicago 10, Ill.
DISTRICT OFFICES AND PLANTS: Cincinnati, Denville, N. J., Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, Sheboygan, Winchendon. Continental Box Company, Inc., Houston, Dallas. General Box Company of Mississippi, Meridian, Miss.

▼ BREVITY—Identify by IEN-10655 if you write the maker ▼

PITTSBURGH air pressure tested COILS



Pipe Coils — Bends — Boiler Tubes

Built for your particular needs. Send blue print or rough sketch for Pittsburgh quotation. Also air-pressure tested Welded Headers, Welded Ammonia Receivers, Accumulators, Pipe Coils, Bends, Boiler Tubes. "Let us quote!"

Ask for Pipe Coil Data Book

Pittsburgh Pipe Coil & Bending Co.
61 BRIDGE STREET ETNA, PITTSBURGH 23, PA.

▼ BREVITY—Identify by IEN-10652 if you write the maker ▼

WHAT METALS CAN BE DEEP-DRAWN?

Typical Hackney Welded WATER TANK [illegible]

Numerous metals have been employed in the manufacture of Hackney Deep Drawn Shapes and Shells, including steel, stainless steel, Monel metal, nickel, aluminum, magnesium, Herculoy, Everdur, bronze, copper and various alloys.

But no matter what metal is used in making a Hackney Deep Drawn Shell or Shape, users gain many exclusive advantages: decreased overall weight, greater strength, faster production, elimination of expensive machining operations, greater durability, improved appearance, lower costs.

Pressed Steel Tank Company engineers will be glad to work with you in adapting special shapes—to improve existing products—to develop new products. Write for full details.

PRESSED STEEL TANK COMPANY
Manufacturers of Hackney Products
Main Office and Plants: 1449 S. 66th St., Milwaukee 14 • 1322 Vanderbilt Concourse Bldg., New York 17 • 251 Hanna Bldg., Cleveland 15 • 936 W. Peachtree St., N.W., Room 135, Atlanta 3 • 208 S. LaSalle St., Room 786, Chicago 4 • 577 Roosevelt Bldg., Los Angeles 14
CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

▼ BREVITY—Identify by IEN-10653 if you write the maker ▼

Join the hundreds of top companies who are "smart" about their business with uniforms of Reeves Army Twill Sanforized* and vat-dyed in colors fast to sun, water and perspiration. Reeves Army Twill stays new-looking *and lasts longer*—even after repeated washings. Write today for information for your business.

*Residual shrinkage less than 1%.

REEVES BROTHERS, INC.
54 WORTH ST., NEW YORK 13, N. Y.

▼ BREVITY—Identify by IEN-10656 if you write the maker ▼

Need Skids?

BARRETT STEEL LEG SKIDS Type "FS"—36" x 48" with 8½" x 7½" underclearance—1⅞" lumber—Capacity 2000 lbs. *In lots of 50

AS LOW AS $6.44* EACH F.O.B. Chicago, Ill. or Hillside, N. J.

ORDER BARRETT THIS TIME!

See the difference! Get the best! They last longer. Hard maple top boards for durability. High carbon-manganese steel angles, 50% stronger than mild steel, prevent deflection—no sagging skids to hamper operations. Forged steel legs with broad bearing surface to protect floor. Jig constructed—true to dimensions. Available in any size, any capacity—with any type of superstructure. Fit any make of hand or electric lift-truck. All parts easily replaced. Write ...

BARRETT-CRAVENS CO.
[illegible] S. Western Blvd., Chicago 9, Ill.
Representatives in All Principal Cities
Can. Distributors: S. A. Armstrong, Ltd., Toronto, Canada

BARRETT
One Man Does More Than 3 or 4 ... with a Barrett

▼ BRIEFLY—Answer by IEN-10657 (if you write the maker) ▼

TOTES MORE PAYLOAD at LESS COST . . .

LIGHT WEIGHT—Convoy Nesting Tote Box—weighs 50% to 60% less than steel . . . 2 cu. ft. size weighs only 7.2 lbs.

STRONG, DURABLE—Convoy Tote Boxes are made of chemically hardened corrugated board by an exclusive impregnation process . . . generally will support anything they will engage. Many of them have been in active daily use for more than two years. Armored rim for rigidity . . . strong, comfortable handholes.

LOW COST—Convoy Nesting Tote Box costs 50% to 60% less than steel . . . so inexpensive that they can be discarded when they finally become unserviceable.

More than 30 stock sizes of nesting boxes available now . . . write for details.

CONVOY, INC. P. O. Station B, Box 216-I CANTON 6, OHIO

▼ BRIEFLY—Answer by IEN-10658 (if you write the maker) ▼

MICRO

Precision Switches for Production Short Cuts

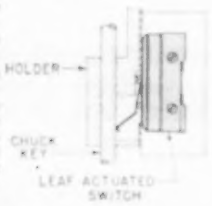
All the production short cuts shown on this page have been supplied by plant engineers, electricians and tool designers who have found MICRO precision switches ideal in making present plant equipment more automatic, safer and more convenient to operate.

There are hundreds of such applications in MICRO SWITCH files. Plant production men are invited to send for a file of MICRO TIPS, a publication devoted to these practical, time-saving ideas. Better still, let us put you on our list to receive MICRO TIPS regularly.

HERE ARE 2 TYPICAL APPLICATIONS

1 MICRO precision switch insures safe drill press operation.

This drill press cannot start until the chuck key is removed. A normally open snap-action switch is a special holder with mounting plate is attached to the column of the drill press. With the switch wired into the motor starting circuit, the press cannot be started until the chuck key is removed from the chuck and is inserted in the holder.



2 MICRO precision switch signals when reservoir water is too low.

Low water level in a large concrete water reservoir is indicated by a snap-action switch with a leaf type actuator. When the float drops to the predetermined level, counter weights actuate the switch. In such an application the switch can either be used to operate a signal light or be wired into the motor starting circuit to start the pump.

MICRO SWITCH distributors with complete stocks are located in over one hundred cities to supply you with just the right switch to make your plant operations more automatic. Look for them under "Switches, Electric" in your classified phone book.

MICRO *first name in precision switches*

MICRO MS SWITCH

FREEPORT ILLINOIS, U. S. A.

Copr. 1950, Minneapolis-Honeywell Regulator Co.

Branch offices in principal cities of the United States and Canada

NEW LITERATURE—Concluded

"Send us your own new literature for review"

TRUCKS . . . Symo-Matic[illegible] . . . IEN-[illegible]

TRUCKS . . . "Let It Move" . . . IEN-[illegible]

TUBE FITTINGS . . . IEN-[illegible]

TUBES . . . IEN-[illegible]

TUBES . . . IEN-[illegible]

TUNGSTEN . . . IEN-[illegible]

VALVES . . . IEN-[illegible]

VALVES . . . IEN-[illegible]

VALVES . . . IEN-[illegible]

VENTILATING . . . IEN-[illegible]

WASH ROOMS . . . IEN-[illegible]

WATER TREATING . . . IEN-[illegible]

WATER TREATING . . . IEN-[illegible]

WELDING . . . IEN-[illegible]

WELDING . . . IEN-[illegible]

WELDING . . . IEN-[illegible]

WELDING . . . IEN-[illegible]

WELDING . . . IEN-[illegible]

WOOD WORKING . . . IEN-[illegible]

WRENCHES . . . IEN-[illegible]

WRENCHES . . . IEN-[illegible]

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 30

▼ BRIEFLY—Answer by IEN-10660 (if you write the maker) ▼

SHENANGO PENN *Centrifugal* CASTINGS . . . KEY TO SAVINGS

Extra life for symmetrical parts

This special bronze turning roll cover is typical. A Shenango-Penn centrifugal casting, it combines an exceptional uniformity with fine, pressure-dense grain and freedom from porosity, other hidden defects such as cold inclusions and blow holes.

The result is greatly prolonged wear life plus extra strength to withstand abnormal loads, speeds and shock without risking costly failure in service.

Save time and money! If concave cylinders, sleeves, liners, rings, rolls or other symmetrical parts, various or irregular, large or small, rough or machined, try Shenango-Penn.

ASK FOR BULLETIN

No. 143—Centrifugal castings of non-ferrous metals and alloys

No. 144—Centrifugal and static castings of plain and alloyed irons

No. 145—Centrifugally cast bushing stock in all standard sizes

SHENANGO-PENN MOLD COMPANY
2931 West Third Street . . . Dover, Ohio
Executive Offices: Pittsburgh, Pa.

SHENANGO PENN

All Bronzes • Monel Metal • Ni-Resist • Mechanite Metal

▼ BRIEFLY—Answer by IEN-10661 (if you write the maker) ▼

Why a VICKERS *Standard* Magnetic Amplifier can improve your controls

HIGH PERFORMANCE—power gains up to 10,000
NO MAINTENANCE
RUGGED CONSTRUCTION—no moving parts
NO WARM-UP TIME
RESPONDS TO SUM OR DIFFERENCE OF SEVERAL SIGNALS
ALLOWS ELECTRICAL ISOLATION BETWEEN CIRCUITS

Typical Applications

Speed regulators • Voltage regulators • Servo systems—positioners and indicators • Hydraulic controls • Control relays • Temperature regulators • Lamp and furnace controls.

Write for Bulletin 20-A describing Vickers complete line of Magnetic Amplifiers. Please make request on your letterhead.

VICKERS ELECTRIC DIVISION
1894 LOCUST STREET • ST. LOUIS 3, MISSOURI

▼ BRIEFLY—Answer by IEN-10662 (if you write the maker) ▼

Now...morethanever...AMERICAN is PHILLIPS HEADquarters

5 acres of new machines and equipment, in the modern plant at Willimantic . . . plus the Norristown plant and Chicago warehouse . . . are keeping distributors and jobbers supplied to fill your orders *right now*. And that goes for all slotted fasteners, too.

Make a note of the *new phone number* of the new main plant . . . *Willimantic, Connecticut* 1-1681 . . . also Chicago . . . Whitehall 4-5866, and Norristown 0138. Call the number nearest you.

AMERICAN SCREW COMPANY
Plants at Willimantic, Conn. and Norristown, Pa.

AMERICAN SCREWS

▼ BRIEFLY—Answer by IEN-10663 (if you write the maker) ▼

Hein-Werner Hydraulic Jacks are basic maintenance tools!

You'll save time and money at maintenance jobs when you put Hein-Werner Hydraulic Jacks to work for you. A versatile portable unit of hydraulic power for bending, pressing, pushing or lifting operations. Made in models of 1½, 3, 5, 8, 12, 20, 30, 50 and 100-ton capacity. See your industrial supply distributor or write us.

Hein-Werner HYDRAULIC JACKS

HEIN-WERNER CORPORATION
WAUKESHA, WIS.

▼ BREVITY—Identify by IEN-10664 if you write the maker ▼

Ingersoll

your better source for all three

STEEL that resists corrosion — INGERSOLL SOLID STAINLESS

STEEL that resists heat — INGERSOLL HEAT-RESISTANT

STEEL that gives stainless protection at lower cost — INGERSOLL INGACLAD STAINLESS-CLAD

All are backed by Borg-Warner

Your inquiries are invited

Ingersoll STEEL DIVISION
BORG-WARNER CORPORATION
310 South Michigan Avenue • Chicago 4, Illinois

BW

▼ BREVITY—Identify by IEN-10665 if you write the maker ▼

Buy DARTS

For Longer Service

This True Ball Joint Makes the Difference

Easy to Tighten: Because of the spherically ground seam, Darts unions always fit snugly — bronze seat to bronze seat. Moreover, they close easily and stay tight. No need to jam a Dart.

Easy to Unscrew: Darts unscrew easily, too. Seals are unstarted — ready for repeated use.

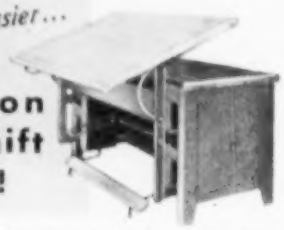
Practically Indestructible: To ensure the ultimate in protection, both body and nut of a Dart are made of practically indestructible high test, air-refined malleable iron. One more of the many reasons why Darts are first choice of careful buyers coast to coast.

E. M. DART MFG. CO., Providence 5, R. I.

▼ BREVITY—Identify by IEN-10666 if you write the maker ▼

You'll do better work... faster and easier... with a

Hamilton Auto-Shift Table!



HERE'S WHY Regardless of the job, your Auto-Shift gives you the best possible working position. Instant, finger-tip control of height and slope lets you work on any part of the drawing in a relaxed, effortless way.

Standing or sitting—in horizontal or vertical board position—for work or discussion—the flexibility of your Auto-Shift speeds production. You'll like the conveniences of instrument storage and the work sized reference space, too.

We want you to know all about Hamilton Auto-Shift Tables. It costs nothing, but will save you time and money—just use this handy coupon.

Hamilton Manufacturing Company, Two Rivers 10, Wisconsin
I'd like to know more about Hamilton Auto-Shift Tables.

Name _____
Firm _____ Position _____
Address _____
City _____ Zone _____ State _____

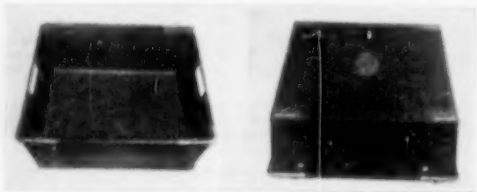
Hamilton Manufacturing Company
TWO RIVERS, WISCONSIN

© 1951 — HAMILTON MANUFACTURING COMPANY

▼ BREVITY—Identify by IEN-10667 if you write the maker ▼

HANDLING . . Plastic tote box shaped for nesting and cross stacking

Source: WATERBURY COMPANIES INC.
641 Main St., Waterbury 90, Conn.



Resin impregnated Fiberglas mat is formed over a steel-rod reinforcing frame in a low pressure molding process in manufacture of this new tote box. Corners are reinforced with stainless steel. Rectangular eyes are secured to the reinforcements on the two sides. Similar eyes form feet on the bottom integral with the reinforcing. Steel shoulders on the sides act as load-carrying rests when two or more boxes are nested.

The box measures about 24½ by 20 in. inside at the top, 22⅝ by 18 in. at the bottom. Inside depth is 10½ inches. The rectangular eyes and feet are 1 in. in outside width by ⅝ in. in height. Hand holes at the two ends measure 5 by 1¾ inches.

▼ BREVITY—Identify by IEN-10668 if you write the maker ▼

MELTING . . Dry chemical for snow and ice in cold open areas

Source: SPECO INC.
7306-10 Associate Ave., Cleveland 9, Ohio.

Packaging starts in 10 pound containers

Melting capacity of a pound of the new pellet form of the company's previously developed Ice-Beau is equivalent to about 30 lb. of salt. It is sprinkled over a surface preferably at the start of a sleet or sleet storm. It will keep walks, steps, yard areas, loading platforms clear. It also will thaw ice and snow in gutters, switches. Corroding is minimized.

▼ BREVITY—Identify by IEN-10669 if you write the maker ▼

VIBRATING . . Pneumatic unit promotes flow in bins, hoppers, chutes

Source: SPO INC.
6450-54 Grand Division Ave., Cleveland 5, Ohio

Series SI has been added to the company's line of vibrators previously described IEN-500(Ia) for application on storage bins, hoppers, chutes to promote flow of dry materials and to prevent arching. The unit is made in three piston diameters from 1⅝ to 2½ inches. The air connection can be rigid or swivel for ⅜ in. pipe or hose.

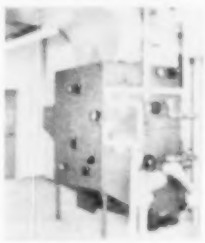
The cylinder is bronze lined inside the semi steel body. The base plate is cast steel. Mounting can be made in any position with connecting to the company's hopper gate valve for operation in step with the gate.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN-10670 if you write the maker ▼

New Method Gives Precise Control in Air Conditioning

NIAGARA "Controlled Humidity Method" Uses HYGROL, Hygienic Liquid Absorbent



● This new method gives complete control of temperature and relative humidity, holding constant conditions or varying them at the will of the user. Especially, it provides dry air at normal atmospheric temperatures with little or no refrigeration required.

The air is filtered and then enters a chamber where it passes thru a spray of "Hygrol" Liquid (a hygienic hygroscopic chemical that absorbs the airborne moisture and contains no salts or solids to precipitate). In the same chamber, cooling coils remove the latent heat of evaporation and any sensible heat as required.

The absorbent liquid spray falls into a tank at the base. It is piped to a concentrator, removing moisture taken from the air. The reconcentrated liquid returns to the system. This process is continuous, and the apparatus operates always at full capacity.

This equipment is manufactured in units providing from 1000 to 20,000 C.F.M. of conditioned air.

Installations have been made in food and chemical process industries, in packaging hygroscopic products, for preventing condensation of moisture on metals and other products in storage, in air conditioning for laboratory control and for human comfort.

For further information, write Niagara Blower Co., Dept. EN, 405 Lexington Ave., New York 17, N. Y.

▼ BREVITY—Identify by IEN-10671 if you write the maker ▼

The KENT Combination

Dry Suction Cleaner and Electric Mopper

★ FOR DRY PICK-UP
★ FOR WET PICK-UP

—picks up dirty scrub water like magic! A real time saver. Floors dry almost instantly. Easily converts to Dry Pick-Up.

WITH THE KENT FLOOR MACHINE, the KENT Combination makes the perfect "Fast Cleaning Team"!

Write for Literature to:

CLEAN WITH **KENT** EQUIPMENT

THE KENT COMPANY • 437 CANAL ST. • ROME, N. Y.

▼ BREVITY—Identify by IEN-10672 if you write the maker ▼

The World's Most Efficient

CONCRETE DRILL

THE TILDEN ROTARY KONKRETE KORE DRILL

gives lowest cost per foot of concrete drilled because it:

- Drills at 2 to 6 inches per minute
- Drills reinforcing bars and beams in concrete
- Drills up to 30 feet of concrete without resharpening
- Gives straight, clean holes for anchors, conduit, etc.
- Uses ordinary electric drill

Quiet cutting action gives minimum disturbance of surrounding activities.

U. S. Pat. No. 2,510,474

Tilden drill bits are available in standard sizes of from ¼" to 4" diameters. Quotations on larger sizes on request.

Write today for catalog with complete details on these revolutionary concrete drill bits.

New, exclusive "centerless" design of drills from ¼" through 2-1/8" diameters is 3 to 4 times more efficient than solid pointed drills. Concrete is penetrated faster with less pressure. Prices on these drills have been reduced to as much as 50%.

TILDEN TOOL MANUFACTURING COMPANY
1995 NO. FAIR OAKS, PASADENA 3, CALIFORNIA

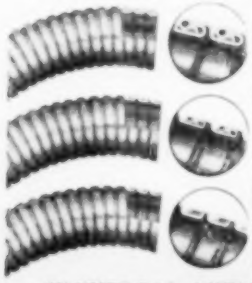
▼ BREVITY—Identify by IEN-10673 if you write the maker ▼

Any Type, Any Size Any Metal

UNIVERSAL *Flexible* METAL HOSE

EXHAUST • SUCTION • BLOWER HOSE
CONDUIT • PRESSURE HOSE • FITTINGS

Universal has the exact type and size flexible metal hose you require for conveying solids, fluids, or gases at all temperatures and pressures. Universal gives you extra dividends in performance at no extra cost—trouble-free service, ease of handling, long life. Universal Metal Hose has been tested and proved through years of use for flexibility, strength, protection from leaking, resistance to corrosion, heat, constant motion and vibration. Simplify your selection, step-up efficiency at a saving. Check UNIVERSAL HOSE Now!



INTER-LOCKED HIGH PRESSURE HOSE — Four-wall construction with heavy asbestos packing. Sizes to 12" diameter.

INTER-LOCKED EXHAUST AND BLOWER TUBING — Heavy-duty or light-weight types. Sizes to 24" diameter.

SQUARE-LOCKED LOW PRESSURE TUBING—For such applications as exhaust hose for small engines, flexible spouts, industrial vacuum cleaner tubing, etc. Sizes to 3" diameter.

Send specifications today — Ask for Catalog U-10 describing all types of Universal Metal Hose available.

UNIVERSAL METAL HOSE CO.
2131 South Kedzie Ave. Chicago 23, Ill.

▼ BREVITY—Identify by IEN-10674 if you write the maker ▼

EX-CELL-O *Spindles* "STEPPED UP PRODUCTION TREMENDOUSLY!"

That's what an electrical manufacturer says about a group of Ex-Cell-O Precision Spindles he purchased. These were of the high frequency, inbuilt motor type, pictured above. If you use precision grinding spindles send for the Ex-Cell-O Spindle Catalog today—no obligation of course. For a quotation on special spindles just send a sketch with basic dimensions and state the speed and horsepower required.

XLO

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

▼ BREVITY—Identify by IEN-10675 if you write the maker ▼

EXTRA FAST, EASY *Pipe Reaming* ON 1/8" TO 3" PIPE

And RIDGID LonGrip Reamers Won't Flare or Split Pipe

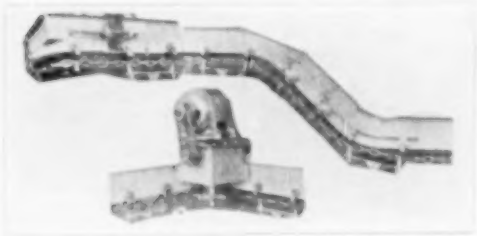
• It's the extra-long-taper on RIDGID LonGrip reamer that makes it smooth the burr cleanly out of pipe or conduit almost without effort. Just a few light ratcheted strokes and your job's done—no worry about thinning, flaring or splitting. Saves your time, work and *pipe*. Furnished complete with ratchet handle, or No. 2 reamer unit sold separately for use in RIDGID OOR small ratchet die handle. Two sizes, No. 2, ⅛" to 2"; No. 3, ⅝" to 3". Ask your Supply House.

RIDGID
WORK-SAVER PIPE TOOLS
THE RIDGE TOOL CO. • ELYRIA, OHIO

▼ BREVITY—Identify by IEN-10677 if you write the maker ▼

CONVEYING . . Chain and trolleys with motor drive and 6 in. I-beam

Source: EDWARD HALE WILLIAMS
16th St. & Virginia Ave. W., Huntington, W. Va.



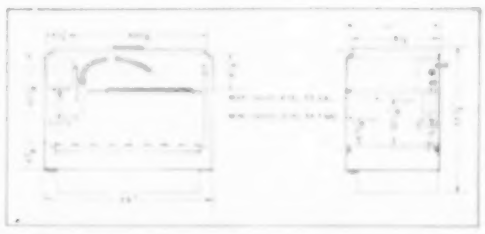
Loads to 300 lb. can be suspended from bars bridging between any two of the trolleys in this new chain conveyor. They can be moved along beneath the 6-in. I-beam track in straight or curved path, horizontal or angling up or down. A complete installation forms a closed loop with the motor drive at one of the corner sprockets where the track and chain make a 90-deg. or greater curve. The motor is belt-connected to drive the sprocket, by means of a geared reduction, to an overall range between 1½ and 21 fpm. Range is selected by choice of gearing and by application of interchangeable or variable-pitch sheaves.

Horizontal turns are 90, 120, 150 deg. or special as specified. All have a 4-in. radius. Vertical turns are limited to a 45-deg. incline and have a 12-in. radius. Any incline length can be supplied between the downward and upward turns. A takeup consists of two 90-deg. turns with a screw and track adjustment measuring 12 in. in length. The ball bearing trolleys have hardened races. The chain is alloy steel with load rating in tension of 2,000 pounds. The company is prepared to submit a suggested layout and to quote on a given installation.

▼ BREVITY—Identify by IEN-10678 if you write the maker ▼

CLEANING . . Cold solvent machine for tools, fixtures, machine parts

Source: GRAYMILLS CORP.
2004-8 Ridge Ave., Evanston, Ill.



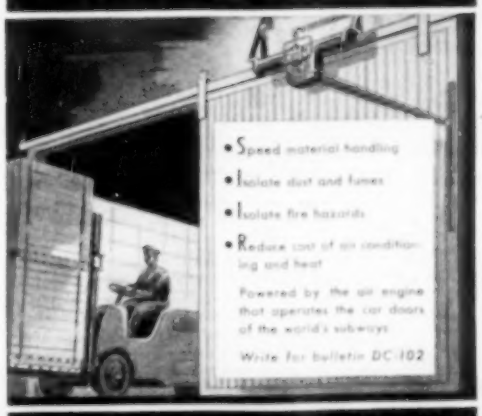
Model H-78 is a new unit in the company's line of pump-equipped cold-solvent cleaning equipment. It holds a maximum of 55 gal. of solvent, takes work on a removable screened rack near the bottom of the housing or on a sliding removable platform near the top.

A three-way valve can be set to deliver solvent from the pump from the bottom up for flushing, from the side horizontally for agitation or through a hose for flushing. The pump is driven by a ½-hp. permanently lubricated motor for operation on 110 or 220-volt ac. List price to the Eastern states for the new assembly is $864.50.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

▼ BREVITY—Identify by IEN-10679 if you write the maker ▼

NP PRE-ENGINEERED *Pneumatic* DOOR OPERATORS*



NATIONAL PNEUMATIC CO., INC.
Boston • Graybar Bldg., New York • Chicago

▼ BREVITY—Identify by IEN-10680 if you write the maker ▼

EFFICIENT "PACKAGE" *for* PRESSURE BLOWING!

Up To 2¼ Lbs. Single Stage

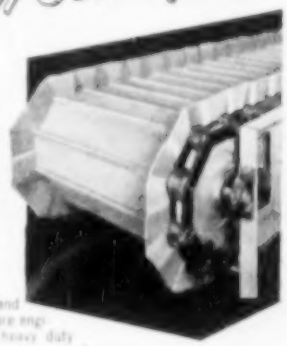
Here's maximum pressure for minimum space! You save on installation space and cost with "Buffalo" Type "CB" Pressure Blowers. Thoroughly proven over the years, these popular "Buffalo" Fans have recently been improved in strength, weight, size—and efficiency. WRITE FOR BULLETIN, 3555-A for complete description. 150 c.f.m. to 5000 c.f.m. sizes to choose from.

BUFFALO FORGE COMPANY
496 Broadway Buffalo, New York
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Branch Offices in all Principal Cities

"Buffalo" "CB" BLOWERS

▼ BREVITY—Identify by IEN-10681 if you write the maker ▼

Apron Conveyors for those HARD-TO-HANDLE MATERIALS



MHS Apron Conveyors are built in three standard types—Double Beaded, Hinged Pan and Segmental Pan. All are engineered for reliable heavy duty service in the handling of loose, bulky materials, free flowing materials, machine turnings, stamp strips, scrap, flashings, castings, inspected parts, sand, etc.

The rugged design features of these units and the standardization of materials and construction assure installations of maximum reliability with a minimum of maintenance.

Design details and complete specifications of MHS Apron Conveyors are included in Bulletin CH-1, just off the press. Write for your copy now.

MECHANICAL HANDLING SYSTEMS, INC. MHS
4605 NANCY AVE., DETROIT 12, MICH.
Offices in Principal Cities

▼ BREVITY—Identify by IEN-10682 if you write the maker ▼

EVERYTHING *for safety, power and convenience!*

C/R's NEW JAW-HEAD *Rawhide* HAMMER

Protects fine finishes and delicate machine parts. Delivers powerful controlled blows for long periods. To change tightly coiled Rawhide faces, simply loosen nut, replace faces, tighten and the hammer is ready for use. Faces are made of tough, resilient water buffalo hide, most durable of all "soft" striking surfaces. Safety-Flare grip handles are easy to hold—prevent slipping. For everything you need in a "soft" hammer, use the new C/R Jaw-Head *Rawhide* hammer.

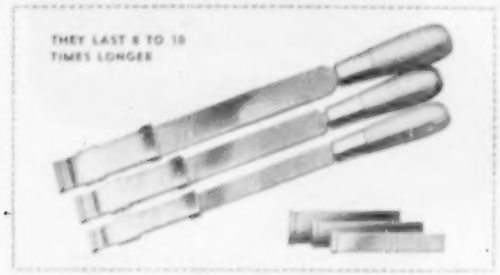
• Other C/R striking tools: Rawhide Mallets, Rawhide Maul, Solid Head Rawhide Hammers.

Available from welding equipment suppliers.

CHICAGO *Rawhide* MFG. CO.
1293 Elston Ave. Chicago 22, Illinois
Chicago Rawhide mallets and hammers are stocked and distributed in Canada by Super Oil Seal Manufacturing Co., Ltd., Hamilton, Ontario.

▼ REFER—Reply to IEN-10683 if you write the maker ▼

Carboloy Tipped SCRAPER BLADES



Speed up scraping operations with these efficient blades. They are especially good for hard alloy iron and the extremely hard bronze castings. If you are already using Anderson Hand Scrapers it is not necessary to buy complete new scrapers in order to use carboloy tipped blades. Simply remove the high-speed steel blade and slip in the Anderson Carboloy Tipped Blade. They are available in three widths.

Send For Bulletin 11-25

ANDERSON BROS. MFG. CO., Rockford, Ill.
Hand and Power Hydraulic Presses, Balancing Ways, Roto Checkers, Hand and Power Scrapers, Spotters

▼ REFER—Reply to IEN-10684 if you write the maker ▼

The AIRVEYOR

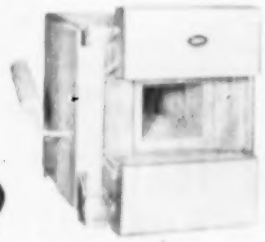
YOU CAN'T BUY A BETTER CONVEYOR!

The engineering and research facilities of the Fuller Company assure you the best design possible, and, in addition, equipment built to give lasting satisfaction . . . assets accrued through the many years of experience and intimate contact with the limit of pneumatic conveying of dry pulverized, crushed, and granular materials.

When you need conveying, tell us your problems. We are at your service . . . no obligation on your part. Write for Bulletin A-15, the Airveyor.

FULLER COMPANY, CATASAUQUA, PA.
Chicago 3 - 120 So. LaSalle St.
San Francisco 4 - 420 Chancery Bldg.

▼ REFER—Reply to IEN-10685 if you write the maker ▼



USE TEMCO

HEAT-TREAT FURNACES TO SAVE TIME AND MONEY

Choose from eight sizes up to 8½ x 7½ x 18 inches interior, with either manually adjusting or fully automatic electronic control.

You'll find TEMCO furnaces are low in cost, easy to install, economical to operate and mighty convenient.

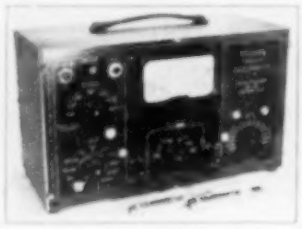
Write today for copy of illustrated Data File.

THERMO ELECTRIC MANUFACTURING CO.
482 West Locust St., Dubuque, Iowa.

▼ REFER—Reply to IEN-10686 if you write the maker ▼

METER . . Electric instrument reads voltage, resistance, current

Source: MILLIVAC INSTRUMENT CORP.
P. O. Box 3027-A, New Haven, Conn.



Type MV-23B is a new vacuum-tube meter with wide accuracy of 0 ma. for d-c and ac voltage measurements. High frequency readings can be made with max. meter sensitivity at 25 mv. for full scale and up 200 megacycles with 0.5 mv. reading. Range of ac amperes is from 1 milliampere full scale to 10 amperes. It is protected against burnout so that it measures current electrically.

Resistance measurements are for a range between 5 ohms and 2,000 megohms. A special circuit provides desirable scale distribution in 4% of the resistance ranges. The meter circuit is fed from a regulated line source rather than by batteries. Overall dimensions are 13½ in. by 7½ in. by 9½ in. inches.

▼ REFER—Reply to IEN-10687 if you write the maker ▼

TESTING . . Spindle attachment for viscosity readings in low ranges

Source: BROOKFIELD ENGINEERING LABORATORIES INC.
235 Porter St., Stoughton, Mass.

Initial assembly is at factory

Adapter Type LL is a new synchronous spindle that rotates inside a stationary cylindrical tube and applies on the spindle of the company's Model LV Viscometer. Reproducibility of readings within .02 centipoise is obtainable when measuring viscosity between 0 and 10 centipoises. The adapter provides full scale deflection representing 10 centipoises at 60 rpm., 20 at 30 rpm., 50 at 12 rpm. and 100 at 6 rpm. Instrument parts are made of stainless steel. Lit. on request.

▼ REFER—Reply to IEN-10688 if you write the maker ▼

HANDLING . . Pressed steel pallet in nesting design for storage, return

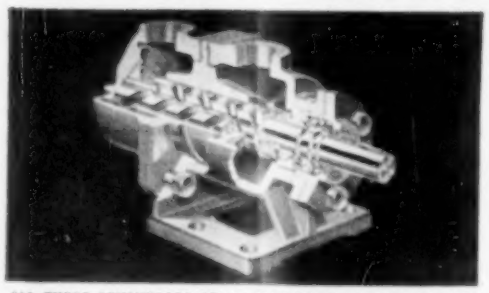
Source: POWELL PRESSED STEEL CO.
50 Industrial Blvd., Hubbard, Ohio

Nestorl trade names new pressed steel pallet available in specified sizes and dimensions. The unit is perforated to take truck forks for four way lift, longitudinally as well as laterally. It is ribbed for load-carrying strength and seats to assure maximum space in storage or in return shipment. Small perforations, in addition to those for fork entry, provide for load strapping should this be desired.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ REFER—Reply to IEN-10689 if you write the maker ▼

A NEW IMO PUMP AT LOWER COST THAN EVER BEFORE



ALL THESE ADVANTAGES AT LOWER COST THAN EVER BEFORE

RELIABILITY—no gears, vanes, pistons. Nothing to get out of order or adjust. The mechanical packing seals never require attention.

QUIETNESS—no noise, no vibration.

FREEDOM FROM PULSATION—continuous, axial flow.

HIGH SPEED OPERATION—for direct connection to motors, turbines, and machines.

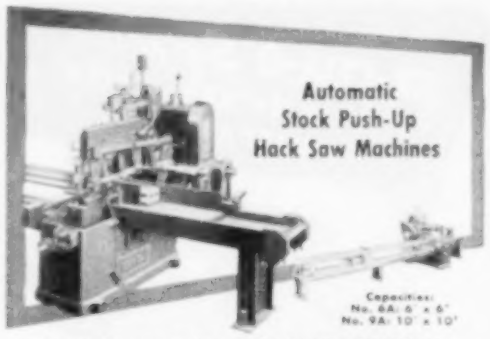
Send for Catalog 1954-D

Capacities to 80 gpm; pressures to 150 psi. For lubrication service, oil transfer, low pressure hydraulic systems, and general pumping of oil and viscous fluids.

IMO Industrial Motor Oil

IMO PUMP DIVISION of the DE LAVAL STEAM TURBINE CO.
TRENTON 2, NEW JERSEY

▼ REFER—Reply to IEN-10690 if you write the maker ▼



Feed, Measure, Cut-Off—AUTOMATICALLY

These automatic stock push-up hack saw machines are not new. MARVEL built the first practical bar feed hack saw machines, over 30 years ago. The sound, proven, basic principle of these machines has never changed—but they have been constantly improved and refined. Today they are still the leaders—the most practical, fastest, most accurate, most productive cutting hack saw machines built. No matter what your cut-off work, let us recommend the MARVEL saw that will give you true economy, speed and accuracy at an attractive price.

Write for Catalog

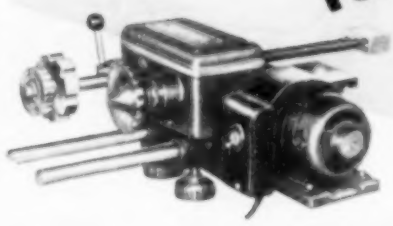
MARVEL SAWS Metal Cutting

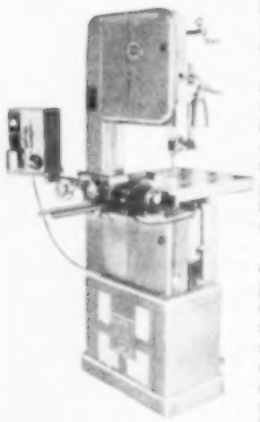
ARMSTRONG-BLUM MFG. CO.
"The Hack Saw People"
5700 Bloomingdale Ave. Chicago 39, U. S. A.

▼ REFER—Reply to IEN-10691 if you write the maker ▼

Speeds cutting time . . . cuts production costs!

New WALKER-TURNER Power Feed





AUTOMATIC POWER FEED insures definite protection of the blade on a Walker-Turner 16" Band Saw. Motor driven, and controlled by the resistance encountered at the cutting edge, this new mechanism maintains a pre-set feeding pressure. Easily adjusted for blade condition and type of material.

Here is Walker-Turner *design* at work, cutting production time and costs. Ask your W-T machine distributor to show you this new, more efficient Power Feed and other cost-cutting equipment in the complete Walker-Turner line. Send for catalog.

walker turner

Sold Only Through Authorized Dealers

KEARNEY & TRECKER MILWAUKEE

WALKER-TURNER DIVISION
PLAINFIELD, NEW JERSEY

DRILL PRESSES • RADIAL DRILLS • TILTING ARBOR SAWS
BELT and DISC SURFACERS • METAL-CUTTING BAND SAWS
METAL-SPINNING LATHES • SPINDLE SHAPERS • JOINTERS

▼ BREVITY—Details in IEN-10693 if you write the maker ▼

WIRE MESH

Maybe it all does look pretty much the same at first glance. But when a firm has been making wire mesh for 70 years man and boy, there's bound to be a little more to it than meets the eye — a little more know-how in engineering and weaving, a little more quality in the product, a little more service and satisfaction for the user.

JELLIFF WIRE MESH is woven in all ductile metals

JELLIFF WIRE MESH is woven in all commercial weaves

JELLIFF WIRE MESH is woven in widths up to 72 inches

JELLIFF WIRE MESH is economical. Every loop runs true to the specifications.

* * * *

JELLIFF WIRE MESH is a quality product and has been for 70 years. You can depend on it.

Write today for full details about JELLIFF WIRE MESH, JELLIFF WIRE MESH PRODUCTS, and JELLIFF'S CONSULTATION SERVICE on wire-mesh engineering. Address Department 12.

THE C. O. JELLIFF MFG. CORP.
SOUTHPORT CONNECTICUT

▼ BREVITY—Details in IEN-10694 if you write the maker ▼

Ledeen CYLINDERS IMPROVE THE JOB

Write for your copy Today!

Their USES, FEATURES, SELECTION, MOUNTING, and APPLICATION

Discussed in New Bulletin 500

Wherever you have to push or pull, lift or lower, press or squeeze, tilt or turn, open or close.

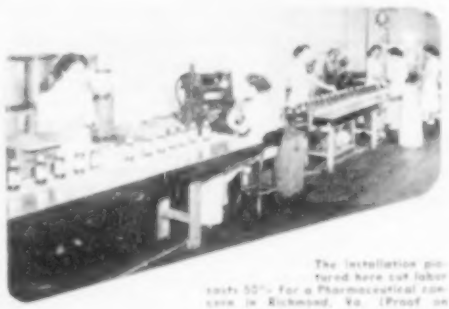
Ledeen cylinders are good cylinders!

Ledeen Mfg. Co.
1602 San Pedro St. Los Angeles 15, Calif.

▼ BREVITY—Details in IEN-10695 if you write the maker ▼

CASE HISTORY

Labor Costs cut in HALF



The installation pictured here cut labor costs 50% for a Pharmaceutical concern in Richmond, Va. (Proof on request)

UNITIZED CONVEYOR TABLES

can do the same for you

One piece formed steel bed—portable or stationary—with or without side leaves—lengths in multiples of 10' up to 100'—steel or stainless steel—fixed or variable speed.

WRITE FOR BULLETIN IP-1A

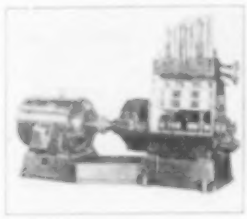
ISLAND EQUIPMENT CORP.

27-01 Bridge Plaza North Long Island City 1, N. Y.

▼ BREVITY—Details in IEN-10696 if you write the maker ▼

PUMP . . Multi-cylinder hydraulic, 5 in. stroke, 1 to 3½ in. plungers

Source: ALDRICH PUMP CO.
2 Pine St., Allentown, Pa.



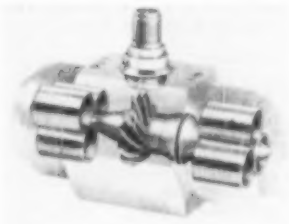
Direct Flow is exclusive one design of the company's line of reciprocating pumps in which single-acting plungers pull down the vertical cylinders by connection to a crankshaft in the base. Flow is straight across low-velocity from intake to outlet manifolds. The pump is available in 2, 3 and 7-cylinder assemblies. It can be fitted with 1 to 3½ in. plungers. Displacement at 400 rpm and 2 in. plunger diameter is 20.4 to 47.6 gpm. Pressure rating is approximately 2000 psi. Displacement is 55.2 to 140 gpm and pressure rating is about 900 lb. with 2½ in. plungers.

Flow is from the suction manifold 1 through the intake valve 2, the cylinder bores 3, the outlet valve 4 to the outlet manifold 5. The valve assemblies are held in place by the manifolds. The stuffing box 6 mounts on the bores and is interchangeable for various sizes of interchangeable plungers 7. Detail information, specifications and illustrations are contained in Bulletin Data Sheet 414-D.

▼ BREVITY—Details in IEN-10697 if you write the maker ▼

METER . . Electronic equipment reads flow rate in liquids and gases

Source: POTTER AERONAUTICAL CO.
60 Academy St., Newark 2, N. J.



Minor magnet is mounted in a non-magnetic tube equipped tube in the overrated mounting connect the flow meter flow meter. The rotor is supported in bearings at the two shaft ends and the bearings are mounted in the connect bore by cylindrical spring clips. The rotor design results in tending to move upstream when a liquid or gas is flowing. The result is floating action that eliminates most the thrust bearings or axial thrust drag.

The element housing carries a pickup coil that connects electrically to integrating and totalizing equipment that can be remotely located. This equipment is actuated by the rotating field set up through the coil by the magnet. The rotor speed, which is a function of fluid velocity and rotor vane pitch, determines the coil pulses, so passed that will be produced. Viscosity is not a factor in the reading.

Standard sizes for the sensing element are ⅜, ½ to 3½ inches, other sizes can be specified. Those measuring 1½, 2, and higher have threaded ends for AN flared tube connections. Larger units are flanged. Operating temperature is to 1000 deg. F. Pressure is to 5000 lb. or more if not specified.

All Makers of These And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 50

▼ BREVITY—Details in IEN-10698 if you write the maker ▼

A news Advertisement by McDowell Mfg. Co.

DRUM CLOSURE . . . A leakproof closure with an easily removed cap seal

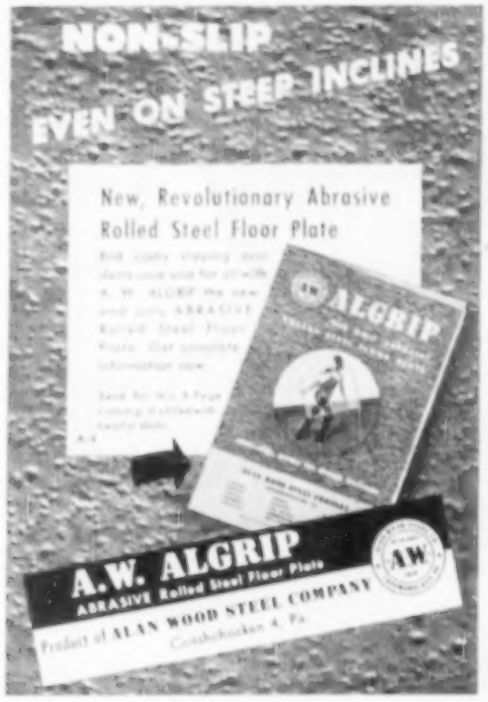
Source: McDOWELL MANUFACTURING COMPANY
301 Stanton Ave., Pittsburgh 9, Pa.

Complete Statite Drum Closure includes a leakproof drum-ring flange, leakproof elevated plug and a tamper proof cap seal. The seal, which is geared all the way around for easy removal, must be destroyed to open the drum. It can be color-coded to color to your own design.

Statite Plug is unique for tightness and uniformity. A totally enclosed synthetic gasket forms a perfect leakproof joint that always leakproof does squeeze, whether used with or without the seal.

Statite Flange is a precision stamping accurately machined and tapped. The inside is flush with the drum wall for perfect drainage.

▼ BREVITY—Details in IEN-10699 if you write the maker ▼



▼ BREVITY—Details in IEN-10700 if you write the maker ▼

FREE FOR YOU

this fact-filled booklet on better ways to package your product

A handy reference manual prepared for you by the makers of KIMPAK* creped wadding. The work of technical experts, skilled engineers. Gives you the latest, safest methods of avoiding damage to products in shipment. For your copy, write to Dept. IEN, Kimberly-Clark Corp., Neenah, Wis.

KIMPAK CREPED WADDING comes in a wide variety of specifications to cover all Four Basic Methods of Interior Packaging. It's light, easy and pleasant to handle—clean and completely free of damaging foreign matter. KIMPAK absorbs up to 16 times its own weight in liquids within 30 seconds, takes continuous vibration and severe shock. Soft and flexible KIMPAK provides "Float Packaging"—the world's most effective shipping protection.

KIMBERLY-CLARK CORPORATION, NEENAH, WISCONSIN

▼ BREVITY—Details in IEN-10701 if you write the maker ▼

WHITNEY CHAIN

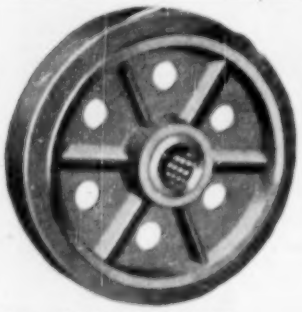
Takes the Problem out of your Power Drive Designs

Because Whitney Chains are extremely flexible and adaptable to a wide variety of designs, they meet practically all transmission requirements. Their positive grip delivers full power without slippage . . . assures uniform speeds. Their rugged construction and hardened-alloy-steel parts provide maximum service with low maintenance. Investigate Whitney Chains and Cut Tooth Sprockets . . . the *all steel drives* for your designs and equipment. Write:

WHITNEY CHAIN COMPANY

202 Hamilton Street Hartford 2, Connecticut

▼ BRIEFITY—Identify by IEN - 10702 if you write the maker ▼



LANCO MOLDED ON RUBBER TIRED WHEELS

for REPLACEMENT
for MODERNIZATION
for NEW EQUIPMENT

LONG WEARING RUBBER TIRES, MOLDED TO HIGH GRADE IRON WHEELS (SEMI-STEEL) ACCURATELY MACHINED AND FITTED WITH HYATT BEARINGS. COMPLETE SETS OF WHEELS, AXLES, CASTERS FURNISHED TO YOUR SPECIFICATIONS.

LANSING COMPANY

TRUCKS • TRAILERS • BARROWS • CASTERS • CARTS • ETC.

"Keep Your Products on Wheels"

Main Office and Factory
LANSING, MICHIGAN
BRANCHES AND REPRESENTATIVES IN PRINCIPAL CITIES

▼ BRIEFITY—Identify by IEN - 10703 if you write the maker ▼

THE *Doyle* VAC-IT

INDUSTRIAL - COMMERCIAL
VACUUM CLEANERS

Regardless of the type of business in which you are engaged YOU CAN PROFIT by using the DOYLE VAC-IT. Let our new, illustrated bulletin help you determine how the Doyle Vacuum Cleaner can be of service to you. Complete information is supplied, including details of various models and a list of many users. Send today for your FREE COPY.

***Doyle* VAC-IT**

DOYLE VACUUM CLEANER CO., 2735 Stevens St., S. W., Grand Rapids 7, Mich.

▼ BRIEFITY—Identify by IEN - 10704 if you write the maker ▼

FREE

Fact-filled 40 page catalog tells how to select right wire rope or chain fitting for your job

Get your free copy right away. Laughlin's #145 Catalog-Data book is a store of practical information on wire rope and chain fittings . . . Complete specifications, helpful tables for engineering designers, riggers, buyers.

LAUGHLIN

THE MOST COMPLETE LINE OF SHOP FORGED WIRE ROPE AND CHAIN FITTINGS

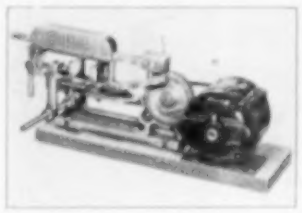
SEND IN TODAY ... no cost or obligation

THE THOMAS LAUGHLIN CO.,
Dept. 11, Portland 6, Maine
Please send Catalog-Data Book #145 to:
Name _____ Position _____
Company _____
Street _____
City _____ Zone _____ State _____

▼ BRIEFITY—Identify by IEN - 10705 if you write the maker ▼

SAWING . . Hacksaw machine takes 10 in. blade, rates 3½ in. work

Source: SALES & SERVICE MACHINE TOOL CO.
2361-65 University Ave., St. Paul 4, Minn.



New design of the Jefferson 601 hacksaw machine, previously described IEN 1877-50, takes a 10-in. blade as compared to the 8-in. capacity of the previous machine. It also can be fitted with an extension bar for a 12-in. blade. The machine provides a 3½-in. stroke, is equipped with pressure release on the return stroke, a latched bar to hold the head up while work is being placed and an adjustable gage bar to set for duplicate work.

List price is $95 with a ¼-hp. motor. The machine will handle 3½-in. square stock set for a 90-deg. cut. It has 2⅝-in. capacity when it has been at a 45-deg. angle.

▼ BRIEFITY—Identify by IEN - 10706 if you write the maker ▼

VALVE . . Saunders diaphragm design, Saran lined to handle corrosive fluids

Source: SARAN LINED PIPE CO.
2413-17 N. Burdette Ave., Ferndale 20, Mich.

Handles liquids containing solids

Type B-115 Saran is employed to line the interior and to provide a sealing face at each flange integral with the mating in a new line of Grinnell Saunders diaphragm valves. Sizes range from 1 to 6 in. for service to 150 pounds.

The valve is regularly equipped with a handwheel but can be specified with a quick-opening lever or with an electric or pneumatic motor. The diaphragm is subject to specification in Saran, natural rubber, neoprene, butyl, hycar and white neoprene or in Kel-F for high temperatures. Face-to-face dimensions in 1⅝ to 10⅝ inches. The housing is made of cast iron but can be specified in steel.

▼ BRIEFITY—Identify by IEN - 10707 if you write the maker ▼

DRIVE . . Universal joint, drop forged design, plain or roller

Source: ALMETAL UNIVERSAL JOINT CO.
1553-57 E. 55th St., Cleveland 3, Ohio

High angle and small diameter characterize new line of forged steel universal joints in a line including replaceable tube, cartridge and bearing assemblies in plain or needle-roller construction. Included are drive-shaft assemblies with two of the joints for equipment drive and power takeoff use.

The line includes 20-deg. single joints 5 in. in length, 35-deg. single joints measuring 4½ in., 90-deg. single joints measuring 5 in. and 90-deg. slip joints 8 in. in length. All are illustrated and sizes are tabulated in 39-page Catalog 26.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BRIEFITY—Identify by IEN - 10708 if you write the maker ▼

▼ BRIEFITY—Identify by IEN - 10709 if you write the maker ▼

it's paper

...BUT IT FILTERS WATER FROM FUEL OIL AT OPERATIONAL SPEEDS

In a new and unusual filter, a chemically treated Riegel paper permits removal of water from oil and gas...at a very high rate of flow. Although its use today is restricted to the armed forces, this novel filter will later have far-reaching applications in the industrial field.

It's another interesting example of Riegel's ability to make paper for almost any need. We now produce over 600 grades, many with technical properties that would surprise you. Perhaps one of these Riegel papers can help you. Just tell us what you are looking for, or send us a sample. If we can't make it, we'll gladly tell you who can.

RIEGEL PAPER CORPORATION • 342 Madison Ave., New York 17, N. Y.

Riegel

• TAILOR-MADE PAPERS FOR INDUSTRIAL USE •

▼ BRIEFITY—Identify by IEN - 10710 if you write the maker ▼

RAMSCO BALL BEARING SWIVEL FITTINGS

THAT ARE REALLY FREE TURNING

FOR LIQUIDS, GASES, PROPANE, HOT ASPHALT, STEAM, ACIDS AND OTHER CHEMICALS

For oil refineries, chemical plants, processing, pipelines, drilling, truck and tank car loading racks. Individual joints or multi-joint flexible steel hose, RAMSCO's patented method of packing offers proven dependability for continuous or occasional rotation service.

360° FREE ROTATION—1, 2 AND 3 PLANES

Your particular piping problems solved. You name it—we have it. Over 500 sizes, types, styles. Sizes: ¾" to 14" low pressure; ¾" to 6" high pressure. Corrosive service or steam fittings 1000 psi. and temp. to 750° F., asbestos or Teflon packed. Low pressure fittings to 2000 psi. and temp. to 225° F. High pressure fittings to 15,000 psi. and temp. to 225° F. Gear driven types available. *Send for complete catalog and prices. State kind of service, pressure, temperature, pipe size and indicate style below. (Threaded, flanged or weld ends.*

RASMUSSEN MFG. CO.
RAMSCO
12305 INDUSTRIAL AVE.
HOLLYDALE, CALIFORNIA

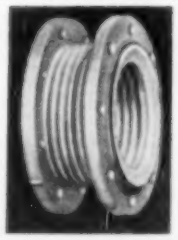
▼ BRIEFITY—Identify by IEN - 10711 if you write the maker ▼

TEFLON EXPANSION JOINTS

TOUGH — HEAT-RESISTANT ABSOLUTELY CHEMICAL-PROOF

If your problem is thermal expansion, vibration, misalignment or any other condition demanding a flexible, chemical proof piping section, then USG's Chemiseal Teflon Expansion Joints can save you money. They're tough, long-lasting and completely impervious to chemical attack.

Fabricated by a special USG process, Chemiseal Expansion Joints accommodate axial contraction and expansion or any reasonable amount of misalignment or vibration without danger of cracking or bursting. They're designed for 25 lb. pressure and are serviceable in a wide temperature range [−150° F. to 400° F.]. Remember—Teflon is so inert chemically that it cannot be affected by nor contaminate any known chemical used commercially.



Chemiseal Teflon Expansion Joints are available for any type of equipment and for a wide variety of operating conditions. Joints are normally supplied with suitable combination flanges and gaskets drilled to 150 lb. A.S.M.E. standard. Exact requirements must be specified, so we'll be glad to send our Catalog No. 212 containing complete information.

Teflon Products Division

UNITED STATES GASKET COMPANY

658 N. 10TH STREET CAMDEN, NEW JERSEY

▼ BREVITY—Identify by IEN-10712 if you write the maker ▼

FELT WICKS for reliable oiling

Lubrication by means of felt wicks permits oil to be fed to bearings and other moving parts, automatically and without failure or interruption. Oil control can be extremely precise, and the flow constant. Where actual oil consumption is low, bearings can be completely sealed and will require no attention between major overhauls.

Four types of wick oiler design permit you to meet the most diverse conditions, from tiny ball bearings to large rotating shafts. Felt is an engineering material, made in standardized types, offering predictable performance.

Write on your letterhead for Data Sheet No. 6, giving complete engineering data.

American Felt Company

TRADE MARK

General Offices: 18 Glenville Road, GLENVILLE, Conn.

▼ BREVITY—Identify by IEN-10713 if you write the maker ▼

Write for Catalog OF USES and SPECIFICATIONS

GENERAL Industrial Pneumatics

ADD THESE 6 SELLING POINTS TO YOUR PRODUCT

SAVE
- TIME
- LABOR
- FLOORS

REDUCE
- BREAKAGE
- MAINTENANCE
- COSTS

Available in assemblies of Tires, Tubes and Wheels. Size O. D. 8" to 23"—200 to 2000 lbs. cap. for low or high speeds.

Rigid **CASTER FORKS** *Swivel*

Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

More AIR VOLUME • *More* STABILITY • *More* LOAD CAPACITY

DELIVERS *Long Mileage* IN HI-SPEED SERVICE

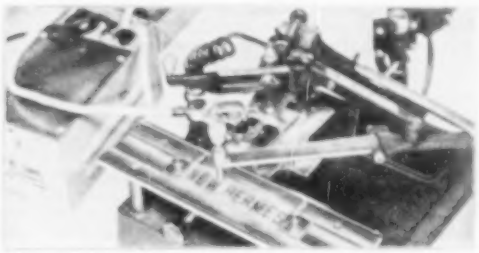
SEND FOR CATALOG . . . DEPT. 3

THE GENERAL TIRE & RUBBER CO. AKRON, OHIO

▼ BREVITY—Identify by IEN-10715 if you write the maker ▼

MARKING . . Etching machine, tracer controlled pantograph design

Source: NEW HERMES INC.
15-17 University Place, New York 3, N. Y.



New spindle for electric etching and a transformer for connection to a 110 volt 60 cycle ac line have been developed for use with the company's Engravograph machine. The etching spindle replaces the motor-driven engraving spindle and connects through the transformer to mark hardened steel work pieces, too hard to be engraved. Depth of the etch can be regulated by heat adjustment at the transformer. The markings are guided to a pattern set up on the tracer table.

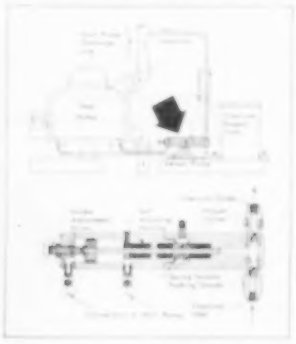
The tracing arm can be set for any of 13 reductions from the actual pattern dimensions. The ratio is 2⅝ to 6 to 1. The machine will take work to 12 in. in width by any length. Working range on a 6 to 1 reduction is 2⅝ by ¾ in. or 1¾ in. square. It measures 16¼ by 18 in. in base dimensions. Etching and engraving spindles are interchangeable so the machine can be employed for either type of work.

Booklet IM, 20 pages, presents illustrations and description of the machine set up for engraving and also for etching.

▼ BREVITY—Identify by IEN-10716 if you write the maker ▼

FEEDING . . Proportioning pump feeds liquid chemical into flow line

Source: WRIGHT CHEMICAL CORP.
625-29 W. Lake St., Chicago 6, Ill.

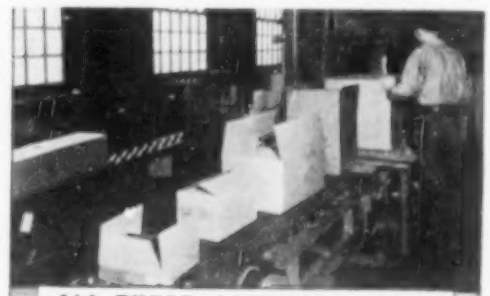


Synchronized Drive is a new proportioning pump in which a reciprocating piston is connected to the two ends of the pumping side of a reciprocating pump handling a main flow. Pressure on one side or the other of the reciprocating pump operates the piston in the proportioning pump to deliver a predetermined quantity of liquid chemical into the main line.

The arrangement insures operation of the feed pump in step with the main pump. An adjustment on the proportioning pump limits the piston travel for the desired amount of feed per stroke. Plug type valves operate without springs in the chemical end. Volume ratio between the operating and chemical ends ranges from 5 to 30 to 1 in a number of sizes. Overall dimensions are 12 to 16 by 6 in. in length and height.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN-10717 if you write the maker ▼



ALL THESE CARTONS CLOSED IN LESS THAN 1 MINUTE

● If variable carton sizes are used in your shipping, you are losing money every day you do not have an International Retractable Anvil Staple Machine—saves time, automatically adjusts for size variations; one operator closes 400 cartons per hour—saves space, cartons remain flat until ready for use—saves damage claims, meets Consolidated Freight and Postal Regulations.

Your inquiry will result in one of our distributors showing you exactly how one of our more than thirty models will save you money and give you a neater and stronger carton closure.

INTERNATIONAL STAPLE & MACHINE CO.

HAVERTOWN 5, PENNSYLVANIA

EST. 1930

▼ BREVITY—Identify by IEN-10718 if you write the maker ▼

BE SURE OF SCRATCH-FREE FINISHING!

ELGIN DYMO

DIAMOND COMPOUND

Pure, uniform graded diamond particles cause fast, dependable mold polishing—free of possible scratches due to oversize abrasive particles! DYMO comes ready to use—brilliantly color identified in all Bureau of Standards grades—and will not cake or settle. For finer, faster finishing, at lower cost, try Elgin DYMO today! Guaranteed to be in accordance with Bureau of Standards specifications.

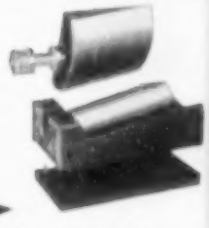
Write today for *Free Demonstration*—right in your own plant!

INDUSTRIAL PRODUCTS DIVISION
ELGIN NATIONAL WATCH COMPANY
ELGIN, ILLINOIS

▼ BREVITY—Identify by IEN-10719 if you write the maker ▼

NEW *Empco* JACK Gives you Quick Accurate Machine Leveling and it ABSORBS *VIBRATION*

New type JACK greatly reduces noise and vibration with VI-SORB Mounting Pads.



VI-SORB Mounting Pads

The combination of a new Empco Jack and VI-SORB is a long step forward in setting and keeping power-driven equipment level while combating the destructive forces of vibration.

Empco Jacks are self-aligning to give you the quickest, easiest, most accurate machine leveling ever known.

For precise machine leveling and maintenance you will save time and money if you use Empco Jacks with VI-SORB Mounting Pads. Write for complete information and prices today!

Remember: A level machine—kept on the level—does better work and lasts longer.

EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2737 JEROME AVENUE • DETROIT 12, MICHIGAN

▼ BREVITY—Identify by IEN-10720 if you write the maker ▼

The Synthane COMBINATION Gives the Right MATERIAL Answers

If your requirements are strict and your present material in any way unsatisfactory, Synthane may be the answer to your problem. Synthane has an unusual combination of mechanical, electrical and chemical properties which have led to its use in many applications in almost every industry.

Light, hard, strong and dense, Synthane is easily machined. Resistant to corrosion and abrasion, it rates high in electrical properties such as high dielectric strength, low power factor and low dielectric constant.

Find out more about Synthane and its possible advantages to you. Clip and mail the handy coupon for your Synthane catalog.

TECHNICAL PLASTICS
SHEETS • RODS • TUBES
FABRICATED PARTS

SYNTHANE

MOLDED-LAMINATED
MOLDED-MACERATED

SYNTHANE CORPORATION
South River Road, Oaks, Pa.

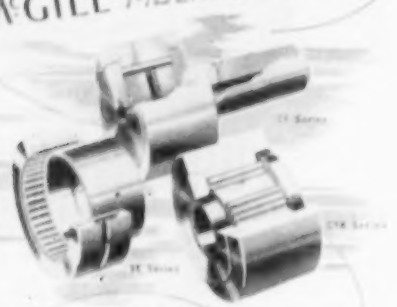
Please send me a copy of the complete Synthane catalog.

Name_____
Firm_____
Address_____
City_____ State_____

▼ BRIEFIT—directly to IEN-10721 if you write the maker ▼

Costs less in the long run

McGILL MULTIROL Bearings



The bonus extra found in McGill Multirol roller bearings are worth money to you. They mean increased profit measured in terms of savings through improved assembly performance. This better performance is due to the consistently higher degree of precision that marks all McGill bearings. For smooth performance, low starting torque, minimum maintenance, ease of assembly, simplified lubrication, and long life in your roller bearing applications specify the McGill SE, CF and CYR Multirol bearings.

For information literature write: McGill Manufacturing Co., Inc., Bearing Division, 100 N. Lafayette St., Valparaiso, Indiana

McGILL precision bearings

▼ BRIEFIT—directly to IEN-10722 if you write the maker ▼

THE FIRST NEW IDEA IN DRILL JIG BUSHINGS... SINCE HECTOR WAS A PUP!

MEYCO Carbide Inserted Bushings SAVE money 7 ways:

Pick design "winning ideas from" look at the ways Meyco Carbide Inserted Drill Jig Bushings save production costs: (1) Last forever — with a life 20 to 50 times longer than solid carbide bushings at prices that even come close to the price of ordinary steel bushings. (2) Increased life for your drill pins and keyseats. (3) Increased life for your drills and reamers. (4) Accurate, uniform and the 3 LONG PERIODS of time—time between production machine stops, time not lost from fixture bushings need not be changed or adjusted, (5) Improved tool speed. Because of greater accuracy for a longer time, and (6) Less waste due to operator error by the more accurate MEYCO MOTION MAKER SAYS: "High Speed steel bushings cost used six days life. MEYCO bushings, after thirty months use, show no sign of wear."

For information and prices write for Meyco Bushing Catalog No. 18.

W. F. MEYERS CO., INC., BEDFORD, INDIANA

▼ BRIEFIT—directly to IEN-10723 if you write the maker ▼

NOW A WIDE RANGE OF AIR PRESSES

Cut Costs...

These presses deliver from 4 to 28 times the air line pressure, cost from $27.50 to $135.00, and will pay for themselves many times over in faster, more uniform production on light skaving, crimping, assembling jobs. Write for new catalog of air cylinders and other air-operated devices.

MEAD SPECIALTIES COMPANY

4114 NO. KNOX AVE., DEPT. EA-110, CHICAGO 41, ILL.

▼ BRIEFIT—directly to IEN-10724 if you write the maker ▼

CONVEYING . . Bucket elevator wheel to replace sprockets on drive shaft

Source: BEAUMONT BIRCH CO. 1503-7 Race St., Philadelphia 2, Pa.

Tractive pull double that required to operate a bucket conveyor at capacity is provided by this new Tract-Pull chain wheel. It has been developed by the company for use in the place of sprockets to provide a drive that will handle capacity loads without slipping and at the same time will release on overloads that could damage the operating equipment of the conveyor.

The wheel is made with a corrugated rim as shown in the illustration into which the chain seats without locking as in a sprocket. It is made of Dimensilite steel with the wearing surfaces hardened to 500-600 Brinell. Sizes are to order.

▼ BRIEFIT—directly to IEN-10725 if you write the maker ▼

MOTOR . . Geared head design, single phase capacitor type, to 3 hp.

Source: STERLING ELECTRIC MOTORS INC. 5399-03 Telegraph Road, Los Angeles 22, Calif.

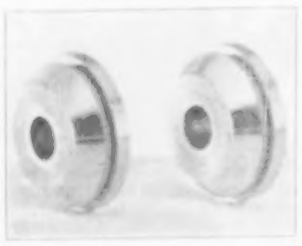
Recent addition to the company's line of Sterlingmotor geared head motors includes a new single phase capacitor type design in speeds from 200 r.p.m. to 20 r.p.m. and in ratings from ½ to 3 hp. The assembly includes a worm type in the place of the centrifugal switch for maintenance-free operation.

The geared head is in single and double reduction designs depending on the output speed. The motor frame is cast iron in drip-proof design. Stator windings are plastic impregnated. The rotor is the company's bearingless design.

▼ BRIEFIT—directly to IEN-10726 if you write the maker ▼

FORMING . . Stellite seaming rolls in specified sizes and form contour

Source: HAYNES STELLITE DIVISION 723-27 S. Lindsay St., Kokomo, Ind.



Typical units are illustrated in a new line of stellite roller specialties, units for accumulating operations. The rolls are made of steel to increase average life in service from two to six weeks. The rolls are made to specified dimensions and cutting. Most frequently ordered size ranges cost about 2 to 4 in. in diameter.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

▼ BRIEFIT—directly to IEN-10727 if you write the maker ▼

ONLY 20 SECONDS TO MOVE 2 TONS 55 FEET

with a Yale Worksaver Pallet Truck

- Handles more tonnage per day . . . faster, easier, safer.
- Reduces handling to a mere "stroll and steer" operation.
- Dual safety brake ideal for ramp work.
- Battery power for two days operation without recharging.
- Capacities to 4,000 lbs. Other types to 6,000 lbs.

Write For Literature

YALE — THE YALE & TOWNE MANUFACTURING CO. Roosevelt Boulevard • Philadelphia 15, Pa.

HAND LIFT AND POWER TRUCKS • HAND AND ELECTRIC HOISTS • INDUSTRIAL DIAL SCALES

▼ BRIEFIT—directly to IEN-10728 if you write the maker ▼

AGASTAT TIME DELAY RELAY

Readily adjustable . . . flexible . . . instantaneously recycling . . . small, compact and easily mounted.

Literature and information without obligation.

AGA AGA AGA AGA

AMERICAN GAS ACCUMULATOR COMPANY
1027 NEWARK AVENUE • ELIZABETH 3, N. J.

▼ BRIEFIT—directly to IEN-10729 if you write the maker ▼

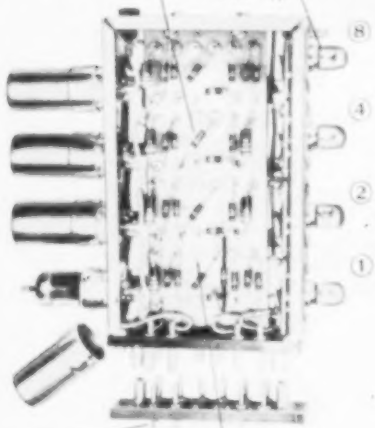
Simple • Reliable • Economical

Potter

decimal counter

Highest quality pretested components, conservative ratings

Four large, easy reading, bulls-eye glow lamps — replaceable socket type



Special silver plated, self-aligning contact and rigid connectors for positive mechanical mounting

All components turret-lug mounted and accessible . . . all wiring color coded

Direct decimal read-out — four neon glow lamps designated 1-2-4-8 provide direct indication (0-9) and instantaneous location of any defective tube.

Stable operation — wide voltage range.

High counting rates — up to 130,000 per second. Absolute accuracy guaranteed.

Covered by both I.B.M. and Potter patents issued and pending.

WRITE DEPT. 7-P FOR COMPLETE INFORMATION AND QUANTITY DISCOUNTS

A NEW LOW UNIT PRICE OF $45.00 IS ANNOUNCED AS A RESULT OF WIDE ACCEPTANCE AND QUANTITY PRODUCTION

Potter INSTRUMENT CO. INCORPORATED

115 CUTTER MILL RD., GREAT NECK, NEW YORK

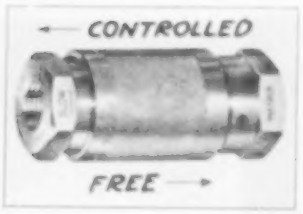
▼ BRIEFITS—Reports by IEN-10731 if you write the maker ▼

▼ BRIEFITS—Reports by IEN-10732 if you write the maker ▼

▼ BRIEFITS—Reports by IEN-10734 if you write the maker ▼

VALVE . . Adjustable check design for free flow and controlled reverse

Source: HANNA ENGINEERING WORKS
1769 Elston Ave., Chicago 22, Ill.



Flo-Set is a new aluminum-body and jointable check valve for free flow through a central passage when flow pressure depresses a spring-backing a molded plastic poppet and moves the poppet from its seat. The valve stops against flow in the opposite direction except for an annular bypass around the central part. This bypass is made larger or smaller by turning a knurled sleeve on the valve body. It can be closed completely or opened so there is no flow restriction.

Three valve sizes are ¼, ⅜ and ½ in. All are rated for use in non-corrosive water and compressed air at pressures to 250 lb. and temperatures to 250 deg. F. Overall lengths are 2⅞, 3⅞ and 4⅞ in., respectively. Weights are ⅞, 1⅛ and 1⅞ lb. respectively.

▼ BRIEFITS—Reports by IEN-10735 if you write the maker ▼

DRIVE . . Hydraulic coupling with valve for load pickup and release

Source: TWIN DISC CLUTCH CO.
1401 Racine Street, Racine, Wis.

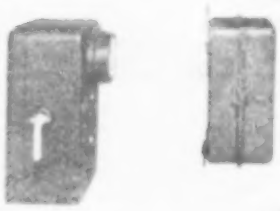
Engine or motor can run steadily

Hydraulic fluid which acts as the source for power transmission in the company's Hydraulic coupling is controlled by a valve in a new Model HF-19 design so it can be exhausted from the coupling or returned to it. The action releases a drive or permanent if without requiring a clutch. The assembly is available in 23 and 27 in. sizes in the standard line.

▼ BRIEFITS—Reports by IEN-10736 if you write the maker ▼

SIGNALING . . Photoelectric unit indicates smoke in air handling duct

Source: PHOTOSWITCH INC.
75-79 Broadway, Cambridge 42, Mass.



Fail-safe circuit design and tamper-proof weatherproof control housing are assembly of photocell, light source and associated optics used to signal the presence of smoke in an air duct and to operate controls that will shut down or slow down or close a shutter.

Operating range is 5 to 30 ft. between light source and receiver. Contact rating is 5 amp. at 110 volts. Operation is on 110-volt, 60-cycle a.c. Four-page Bulletin PE-205 presents illustrated details with dimension sketches, wiring diagrams.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30

▼ BRIEFITS—Reports by IEN-10737 if you write the maker ▼

▼ BRIEFITS—Reports by IEN-10738 if you write the maker ▼

▼ BRIEFITS—Reports by IEN-10739 if you write the maker ▼

KLIXON THERMOSNAP SWITCHES
Provide Accurate Temperature Control

Klixon C4170 Snap Thermostat Thermosnap Switches give accurate temperature control in such equipment as space heaters, incubators, electrical appliances, small water heaters, ice boxes and other products.

Klixon Thermosnap Switches can be supplied in various temperatures differentially in settings from minus 10° to 150°F.

Klixon Type C4170 Controls are listed by Underwriters Laboratories for use where proper approved enclosure is provided. This eliminates further testing of the thermostat when applied to products requiring Underwriters listing.

Write for complete information today.

KLIXON
SPENCER THERMOSTAT
Division of Metals & Controls Corporation
211 FOREST STREET, ATTLEBORO, MASS.

▼ BRIEFITS—Reports by IEN-10740 if you write the maker ▼

▼ BREVITY—Identify by IEN - 10741 if you write the maker ▼

MUELLER BRASS CO. PORT HURON, MICH.

▼ BREVITY—Identify by IEN - 10742 if you write the maker ▼

PRECISION OF FIT

Dumore Tool-Post Grinders turn out internal work flat and accurate to .0001". Rugged strength and precision construction give you big grinder performance at accessory price.

HIGH-SPEED PRODUCTION

Fast and flexible set-up, high speed, interchangeable quality abrasive take turn in work cycle mean lower costs.

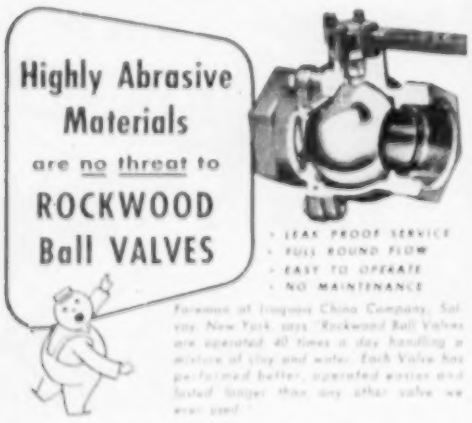
PRECISION OF FINISH

Surface analyzer charts prove Dumore ability to provide fine finishes. To obtain wheelmark-free operation, no expense is spared to insure the utmost in precision total construction.

Write today for free CATALOG!

The DUMORE Company
1300 17th STREET, RACINE, WISCONSIN
Export Address: 13 E. 40th St., New York, N.Y., U.S.A.

▼ BREVITY—Identify by IEN - 10743 if you write the maker ▼



Foreman of Iroquois China Company, Sidney, New York, says "Rockwood Ball Valves are operated 40 times a day handling a mixture of clay and water. Each Valve has performed better, operated easier and lasted longer than any other valve we ever used."

When using the conventional type valve, the Iroquois China Company found the turbulence created in the valve would add up to the "slip" and cause pin holes in the finished product. Also, the "slip" would accumulate in the bonnet and prevent full opening and tight closing. Rockwood Ball Valves eliminate this trouble. Rockwood Ball Valves are also successfully performing on glaze operations, where a mixture of ground glass and water is used.

A valve with these qualities will give top notch performance in your plant—why not install one today and be convinced.

Available for 300 p.s.i. working pressure in all pipe sizes from 1/2" to 4".

Distributors in all principal cities.

ROCKWOOD SPRINKLER CO.
40 HARLOW STREET WORCESTER 5, MASS.

▼ BREVITY—Identify by IEN - 10744 if you write the maker ▼

HEAT TREATING . . Induction machine to anneal, harden, also braze, solder

Source: SHERMAN INDUSTRIAL ELECTRONICS CO.
502-7 Washington Ave., Belleville 9, N. J.

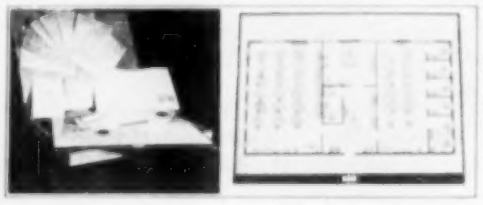
Type SI-515 is a new high frequency induction heater rating 15 kw. at its output terminals. They mount in a cast bronze assembly, jig drilled and threaded to take the company's standard coil blocks interchangeably. The machine is suited for manual or continuous conveyor feed on work that involves annealing, hardening, brazing, soldering on the order of 1 to 2 in. in individual workpiece diameter. Operation is on 220 volt, 60-cycle, 3-phase, supply. Overall housing dimensions are 30 by 38 by 70 inches. Weight is 1,800 pounds.

The machine is equipped with conventional mercury-vapor rectifier tubes in a 3-phase full-wave bridge circuit to feed the Type-880HA power tubes. Equipment includes a 1/50 r/m motor-driven blower to supply cooling air for the power tubes and housing interior, protection against overload at the power tubes and the main power circuit, pushbutton operation with footswitch or trackswitch control for manual or automatic action. Assembly is on a sub-base with clearance for a truck.

▼ BREVITY—Identify by IEN - 10745 if you write the maker ▼

LAYOUT . . Sectioned planning board, pencil, tape and equipment templates

Source: TRIOMETRIC INC.
709-13 Penn Ave., Pittsburgh 22, Pa.



Section squares measuring 1/4 in. represent square feet in actual plant layout on the plastic surfaced planning board in this new plant-layout kit. A pencil that will mark on the surface is included along with colored adhesive tape to represent boundaries and partitions, and templates of equipment and personnel, all to the 1/4-in. scale. The kit includes two booklets explaining the principles of good layout and assembling instructions for procedure.

Three board sizes provide space for floor areas measuring 40 by 56 ft. to 96 by 144 feet. List price is $6 to $16.50 for the complete kit. There are some 380 pieces of office furniture, equipment and personnel in the template sheets. These templates, as well as the adhesive tape, can be attached to the board when a final layout has been made.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

FIND WHAT YOU WANT?
You may find additional suggestions in the index, page 110

▼ BREVITY—Identify by IEN - 10746 if you write the maker ▼

CHAMPION
Precision Expanding Mandrel

Entirely new in principle, this positive drive, quick change work mandrel cuts handling time . . . guarantees concentricity . . . eliminates arbor pressing and reworking.

Lower cost production is assured with faster work, fewer rejects, less tool cost. Arbor is built for heavy cuts. Sleeve closes at .003" under and opens to .007" over nominal size. Positive stop prevents overtrucks. Holds tolerances of less than .0001" run out.

Standard sizes from 1/2" through 3" diameter, graduated by 1/16", fit your machine. Special sizes if required. More details on request. *Write Dept. IEN*

The **WESTERN** Tool & Mfg. Co., Springfield, Ohio

▼ BREVITY—Identify by IEN - 10747 if you write the maker ▼

ARCCO-MACNICK NOW

OFFERS 8 DAY CLOCKS and CHARTS

NEW EIGHT DAY ROTATION

With this NEW clock 11 rotation speeds are possible. Converter gear units available for 2, 3, 4, 6, 8, 12 or 24 hours and 2, 3, 7 and 8 day rotation.

ARCCO-MACNICK CHART CLOCKS are ruggedly built and hermetically sealed for years of trouble-free service. Adaptable to practically every make of instrument. Price $10.50. Converter gear units $3.50 each F. O. B. Los Angeles or Tulsa.

ARCCO CHARTS—Eight day Arcco Charts are now available for use on practically all Emco, Foxboro and Wescott orifice meters. Charts for other instruments soon available.

AMERICAN RECORDING CHART CO.
3113 E. 11th St. • Los Angeles 23, Calif.

Send for Chart and Clock Bulletins

▼ BREVITY—Identify by IEN - 10748 if you write the maker ▼

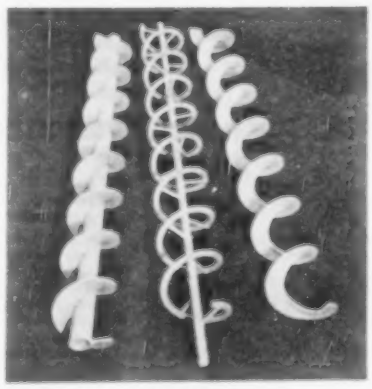
- Perfect visibility all around
- Easily turned 360° ball joint
- Keep position until re-angled
- Sizes and shapes to meet all job conditions
- Replaceable mirrors
- Magnifier mirrors slightly higher

Write for Catalog IE-5 when ordering

ULLMAN PRODUCTS CORP. ULLMAN BLDG. B'KLYN 15, N. Y.

▼ BREVITY—Identify by IEN - 10749 if you write the maker ▼

WORMS AND SPIRALS
FOR ALL TYPE
SCREW CONVEYORS



IMMEDIATE DELIVERY
PRICES ON APPLICATION

JAMES EAGEN & SONS
WEST WYOMING, PA.

▼ BREVITY—Identify by IEN - 10750 if you write the maker ▼

WHEN you bend pipe on repair jobs, radiant heat or original installations, you eliminate up to 80% of costly fittings. Work goes far faster . . . and at a far lower cost. Any green hand can do it — that's why hundreds are in use.

Tal tube benders handle all hard copper tubing without annealing. Also K and L tubing — in diameters from ⅛" to 1". Perfect, flawless bends guaranteed.

Write for informative data bulletins. Dept. 2.

Exclusive Producers of Portable Pipe and Tube Bending Equipment

Tal Bender, Inc. Milwaukee 2, Wisconsin

▼ BREVITY—Identify by IEN - 10751 if you write the maker ▼

Our Work Glove RECONDITIONING SERVICE Saves Up To 49% On Costs*. . .

● We pick up your worn, dirty gloves—wash, mend, reshape, pair, package and return them to you at important savings.

Don't scrap canvas, leather palm or other gloves, pads, etc. Let us give you the complete story on this new service.

*Actual experience of a large user who made a careful study.

Representatives in all industrial areas.

U.S. INDUSTRIAL GLOVE CORP.
1701 Roselawn Avenue,
Detroit 4, Michigan

Please send me complete details on your glove RECONDITIONING SERVICE

Name

Address

City & State

U.S. INDUSTRIAL GLOVE CORP.

▼ BREVITY—Identify by IEN - 10753 if you write the maker ▼

MAGNIFYING . . Illuminated lens for use in inspection and assembly

Source: McMAHILL COLORAMA CO.
3616-20 Superior Ave., Cleveland 14, Ohio

Five aims for all operator's movements and practical elimination of restraints in observing fine work are provided by this new Coloramic Plastic Lens and its base assembled fluorescent lighting fixture. The lens is made of crystal-clear plastic with liquid sealed in and with mounting on an aluminum bar at each side. Brackets are attached to the bar to terminate in a cast-iron supporting base. The fluorescent fixture is adjustably secured under the upper edge at the rear of the assembly.

Five sizes start with 12 in. and are maximum at 20 in. in lens diameter. All are available in 3 and 6 power magnification. The 17-in. unit also is made in 8 power. The 12-in. 3 power assembly complete as illustrated lists at $130.

▼ BREVITY—Identify by IEN - 10754 if you write the maker ▼

STRIPPING . . Powdered material strips nickel plate from copper, brass

Source: ENTHONE INC.
440-44 Elm St., New Haven 2, Conn.

Company supplies detail instructions

Stripper N-155 is a new powdered material for scouring in acid to provide a liquid into which nickel-plated parts can be dipped. Immersion of the parts will result in removal of the nickel. At 180 deg. F. a plate thickness of .000 in. will be removed in an hour. No electric current is required.

▼ BREVITY—Identify by IEN - 10755 if you write the maker ▼

PUMP . . Hand hydraulic units, single and double designs to 20,000 lb.

Source: WM. S. PINE
1637 E. 22nd St., Los Angeles 11, Calif.

Interchangeable piston measuring ⅝, ⅞ and ⅞ in. apply to this new pump to provide pressure ratings from 3,000 lb. per sq. in. on the largest diameter to 20,000 lb. on the smallest. The pump is available in single and double assemblies on a single-unit reservoir providing 300 cu. in. of fluid capacity. Pipe connections are ¼ inch. The handle is 18 in. in length. Weight is 10 and 18 pounds.

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

▼ BREVITY—Identify by IEN - 10756 if you write the maker ▼

KWIK-MIX COMPANY FORT WASHINGTON, WIS. (Koehring Subsidiary)

Also Mfrs. of: CONCRETE • PLASTER • BITUMINOUS MIXERS

▼ BREVITY—Identify by IEN - 10757 if you write the maker ▼

DOES YOUR PRODUCT NEED Dependable Compressed Air Supply?

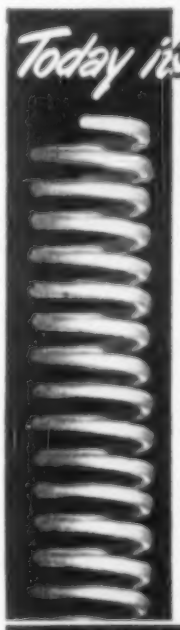
SELECT QUINCY COMPRESSORS

When a product needs something to make it run right—consider compressed air. Hundreds of manufacturers use Quincy Compressors as a part of their own products . . . and in their plant operations. Quincy manufactures a complete line of lock air and water cooled units in a variety of mountings. Get 1951 catalog.

Quincy COMPRESSORS

QUINCY COMPRESSOR CO.
Dept. H-110, Quincy, Illinois

▼ BREVITY—Identify by IEN - 10758 if you write the maker ▼



Today it's Roebling! for Oil-Tempered Spring Wire

A MANUFACTURER'S own tests are necessary . . . but how his product performs in the field is the real proof of the pudding. Records show that Roebling Oil-Tempered Spring Wire brings users fewer machine stoppages . . . cuts down rejects . . . reduces preparation time.

Roebling has one of the largest and most modern specialty wire mills in America. Special techniques and precision machines assure a wire that is absolutely uniform in mechanical and metallurgical properties . . . a wire that will improve your product and your production.

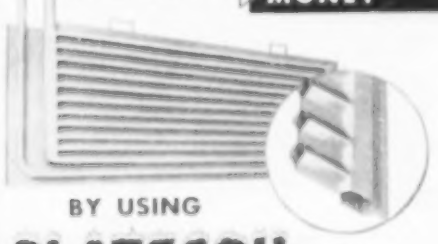
Have your Roebling Field Man help choose the *right* Oil-Tempered Spring Wire — or other round, flat or shaped wire — for top efficiency and economy. John A. Roebling's Sons Company, Trenton 2, N. J.

ROEBLING

A CENTURY OF CONFIDENCE

▼ BREVITY—Identify by IEN - 10759 if you write the maker ▼

YOU SAVE STEEL MANHOURS MONEY



BY USING

PLATECOIL FOR TANK HEATING AND COOLING

YOU SAVE CRITICAL STEEL because "Platecoils" require less than ⅓ the steel used in pipe coils of the same surface area. A 22" x 119" Platecoil weighs 93 lbs. against 269 lbs. for an equivalent 2" pipe coil. 144 lbs. steel saved. YOU SAVE CRITICAL MANHOURS because "Platecoils" are easily installed, cleaned or replaced in minutes . . . No down-time . . . No tank dumping. Many manhours saved . . . YOU SAVE MONEY because "Platecoils" cost up to 50% less in initial cost and require less maintenance. Investigate "Platecoils" today.

Send for complete technical manual and descriptive Bulletin No. P56

PLATECOIL Division COLD-HOLD MFG. CO. LANSING 4, MICHIGAN

▼ BRIEFITT—Identify by IEN-10760 if you write the maker ▼

Solids Flow Like Water

At Rheostat Controlled Rate

With SYNTRON "Vibra-Flow"

VIBRATORY FEEDERS

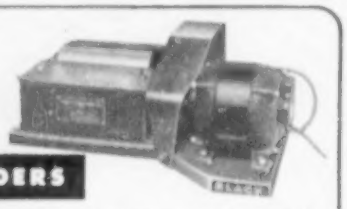
Wherever Bulk Materials—hot or cold, dry or damp—require control—Syntron Vibrating Feeders will do the job. Capacities to hundreds of tons per hour.

Write for Illustrated Folder

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

▼ BRIEFITT—Identify by IEN-10761 if you write the maker ▼

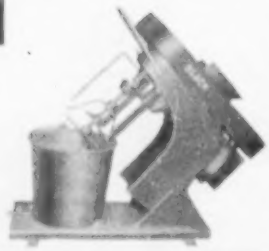
B/B PORTABLE...MOTOR DRIVEN



SPREADERS

Made for all kinds of adhesives — hot or cold. Applies at extra economical cost. 115 volt AC motor. Floor stand with casters available if desired. Write for Bulletin 11-A.

MIXERS



Made in 5, 7½, 10 and 15 gal. sizes. Powder added at bottom through oscillating sifter. Arm hinged to overturn for dual use of the vat. Two way spring lum. Write today for Bulletin 11-C.

THE BLACK BROTHERS CO., INC.
MENDOTA, ILLINOIS, U. S. A.

▼ BRIEFITT—Identify by IEN-10762 if you write the maker ▼

SCREWS

Machine, Wood, Cap, Lag, Set, Knurled and Thumb Screws

Brass, Bronzes, Aluminum, Monel, Stainless Steels

Large stock ready for immediate delivery from distributors and warehouses in principal cities.

FREE STOCK LIST

The H. M. Harper Company,
8311 Lehigh Ave.
Morton Grove, Ill.

Please rush your current stock list of machine and shoulder screw fastenings showing quantities, sizes and types available for immediate shipment.

Name

Company

Address

City Zone State

▼ BRIEFITT—Identify by IEN-10763 if you write the maker ▼

TESTING . . Photoelectric instrument reads contamination in lubricating oil

Source: PHOTOVOLT CORP.
95 Madison Ave., Room 1103, New York 16, N. Y.

Model 75 is a new photoelectric instrument in which an operator places a few drops of lubricating oil, as from the crankcase of an internal combustion engine, in order to read degree of contamination in the oil in terms of light transmission. The oil forms a thin film in a removable cuvette in the center of the assembly between the head-mounted photocell and the cover filter and the base-mounted Photo exciter lamp which serves as a light source. A light meter at the top of the head is actuated by the photocell. It reads in per cent of perfect light transmission as through a clear oil. It can be marked like meter of good, fair and bad for the oil condition.

The head hinges back for access to the cuvette. The base contains a transformer for operation of the small lamp from a 110 volt ac source. Terminals are provided for direct connection to a 6 volt battery. The instrument can be supplied with a built-in battery to make it self-contained. Three interchangeable cuvettes provide for thicknesses of 1, 2 and 3 mm.

▼ BRIEFITT—Identify by IEN-10764 if you write the maker ▼

HOIST . . Drum type electric rates 1 ton, 20 and 40 ft. lift height

Source: MANNING, MAXWELL & MOORE INC.
408 Broadway, Muskegon, Mich.

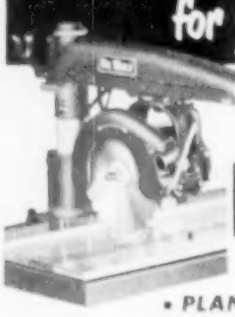
New unit is one of electric driven type hoists rating 1½ to 2 tons is available in single and in two-speed, drum and handle ranges to 1 ton. The single-speed assembly operates at 30 or 60 fpm, with 20 or 20 cycle or a separate 3 phase 2 hp. motor on 230 to 550 volt ac to specification. The two speed unit operates at 6 to 10 fpm in low speed and at 18 to 30 fpm in high speed depending on the current characteristics. All employ two parts of ⅜ in. wire rope. Control centers are a pendant push-button station in a 24 volt circuit.

Construction supports a hoist steel frame carrying all of the bearings. Aluminum covers are quickly removable for inspection and maintenance without taking the hoist from its overhead support. The motor drives helical gearing to the drum. The mechanism includes a motor brake that operates on set and a load brake that prevents backlash. The cast-steel hook block encloses its sheave. The forged-steel hook rides in a thrust bearing. Log suspension, push type or hand geared trolley can be supplied.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

▼ BRIEFITT—Identify by IEN-10765 if you write the maker ▼

the No.1 money saver for your plant



DEWALT

gives you more work for your money in:

- *PLANT MAINTENANCE*
- *PATTERN SHOPS*
- *CRATING AND BOXING*

This versatile, all-purpose DeWalt is never idle! In your plant, it can take care of all your woodworking needs—quickly, accurately and safely. It is *many* machines in one! Simply by changing the cutting tool, you have another machine! Write for catalog. DeWalt, Inc., 1011 Fountain Avenue, Lancaster, Penna.

DEWALT A subsidiary of American Machine and Foundry Co.

▼ BRIEFITT—Identify by IEN-10766 if you write the maker ▼

CUT YOUR PACKAGING COSTS

ONE MACHINE MAKES THE BAG FROM A ROLL OF STOCK—FILLS—SEALS

Bartelt

By combining standard base machines with standard filling, counting, or measuring devices Bartelt can produce economically a "tailor-made" machine ready to handle your particular requirements. This machine can produce a bag from any heat-sealing film, paper or foil. Everything from hardware to soup-mix can be packaged. Send us your packaging problems for analysis.

Automatic • Versatile • Fast

Write for details today

BARTELT ENGINEERING COMPANY
323 Madison St., Rockford, Illinois

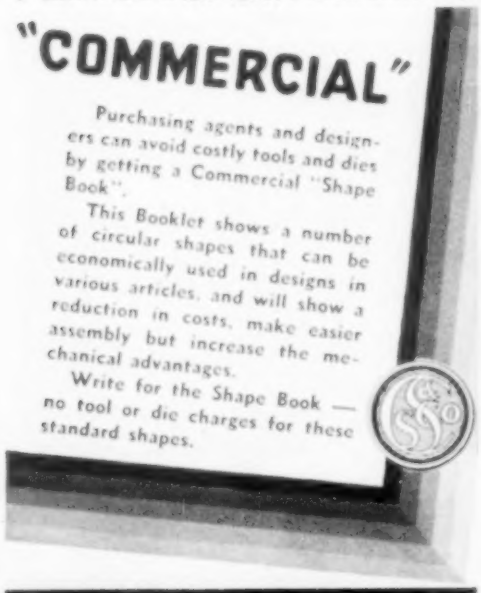
▼ BRIEFITT—Identify by IEN-10767 if you write the maker ▼

"COMMERCIAL"

Purchasing agents and designers can avoid costly tools and dies by getting a Commercial "Shape Book".

This Booklet shows a number of circular shapes that can be economically used in designs in various articles, and will show a reduction in costs, make easier assembly but increase the mechanical advantages.

Write for the Shape Book — no tool or die charges for these standard shapes.



THE COMMERCIAL SHEARING & STAMPING CO.
P. O. BOX 719 YOUNGSTOWN 1, OHIO

▼ BRIEFITT—Identify by IEN-10768 if you write the maker ▼

NON-LUBRICATED

PLUG VALVE

- SYNTHETIC RUBBER SEAL
- OR TEFLON PACKING
- NON LUBRICATED
- ROUND HOLE OR VENTURI
- NO CONTAMINATION
- TWO MOVEMENTS—ONE OPERATION
- CORROSIVE AND NON CORROSIVE SERVICE
- IRON, STEEL, BRONZE, STAINLESS, ALUMINUM
- SIZES ½" TO 12"
- 125 LBS. TO 1200 LBS.
- ASA SPECIFICATIONS

• The principle is an inclining stem, lift that lifts the plug directly out of the body and opens the valve all in one operation. The opposite action closes and seats the valve against a synthetic rubber which is self-conforming—no adjustment.

WHEATLEY

Write FOR ILLUSTRATED "TAPER LIFT" BULLETIN

▼ BREVITY—Identify by IEN-10769 if you write the maker ▼

This FREE Folder Tells How To Do It

Can you clean steel and condition it for painting for less than 20 cents per 1,000 square feet?

WITH minimum equipment . . . in minimum time . . . at minimum cost . . . the OAKITE CrysCoat PROCESS* cleans metal surfaces and prepares them for painting . . . prevents corrosion before and after the metal is painted. *Reg. U. S. Pat. Off.

FREE Write to Oakite Products, Inc., 16A Thames St., New York 6, N. Y., for Folder F7642. This 8-page illustrated leaflet describes 19 advantages of the OAKITE CrysCoat PROCESS and lists 10 ways in which it cuts the cost of cleaning and preparing for painting.

ALSO *ask about Oakite procedures for:*

Machine cleaning	Tank cleaning	Electrocleaning
Steam-gun cleaning	Pickling	Paint stripping
Barrel cleaning	Burnishing	Rust prevention

Technical Service Representatives in Principal Cities of U. S. & Canada

OAKITE SPECIALIZED INDUSTRIAL CLEANING MATERIALS • METHODS • SERVICE

▼ BREVITY—Identify by IEN-10770 if you write the maker ▼

"This don't need an anchor—just a piece of slip-resistant I-B-H Safety Plate."

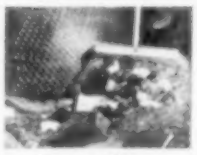
For greater safety under foot, in your plant and on your products

Inland 4-Way Safety Plate

Adds Strength

Easy to Fabricate

Safe Footing



Easy to Clean

INLAND

STOCKED BY LEADING STEEL WAREHOUSES

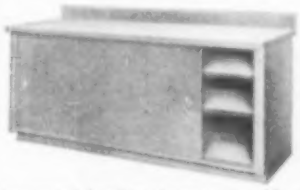
INLAND STEEL COMPANY, Dept. IEN-110
38 So. Dearborn St., Chicago 3, Ill.

New Bulletin with New Ideas—Just Out! Bulletin F1. Complete engineering and application data. Send for it!

▼ BREVITY—Identify by IEN-10772 if you write the maker ▼

FURNITURE . . Steel cabinet bench with doors, shelves, drawers to order

Source: STANDARD PRESSED STEEL CO.
P. O. Box 555, Jenkintown, Pa.



Model 608 is the basic unit in this new cabinet bench. It consists of steel back panel, bottom shelf, backboard, cabinet-type bench legs and a top made of flanged steel, steel covered with Presdwood, or laminated hardwood measuring 1¾ or 2¾ in. in thickness. Additional shelves can be added. A frame with sliding doors applies at the front or sliding drawers can be assembled in place of the shelves and sliding doors. The drawers ride on ball bearing rollers. They and the sliding doors can be locked. Three lengths are 4, 5 and 6 feet. Front to back is nominal of 24 or 29 inches.

Bulletin 202, 8 pages, illustrates and describes the basic unit and follows with illustrated details on all available arrangements with identifying numbers, ordering instructions.

▼ BREVITY—Identify by IEN-10773 if you write the maker ▼

MELTING . . Chemical pellets remove ice and snow from yard aisles

Source: CHEM INDUSTRIAL CO.
1112-16 Hippodrome Bldg., Cleveland 14, Ohio

One pound equals thirty pounds of salt in capacity

Melt (trade name) recently improved chemical available in the form of small pellets rather than in the previously available powder. The material is sprinkled on a snow or ice-covered surface. It will thaw ice or snow in the open or in frozen gutters, switches. Packaging is in 25-lb. pails, 100-lb. fiber drums and 100-lb. moisture-proof paper bags in bulk lots.

▼ BREVITY—Identify by IEN-10774 if you write the maker ▼

PROTECTING . . Utility gas mask for chin, chest or hose connections

Source: ACME PROTECTION EQUIPMENT CO.
3035-39 W. Lake St., Chicago 12, Ill.

Type CM-602S is a new No. 6 facepiece in the company's Full-Vision line of gas masks. The unit is characterized by the provision in the one unit to take chin-type, chest-type or hose-type connections interchangeably. The construction includes a new inhalation-exhalation valve to minimize breathing resistance. Details in 4-page Bulletin 504.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN-10775 if you write the maker ▼

▼ BREVITY—Identify by IEN-10776 if you write the maker ▼

SMOOTH AS A GUN BARREL!

SUPER FINISH BORE ON UNIVERSAL DRILL BUSHINGS LENGTHENS BUSHING LIFE. REDUCES TOOL BREAKAGE

To super finish I. D., add such plus features as blended radius, knurled head, I. D. break, chamfered O. D., and you have the reasons why Universal Drill Bushings are specified by many of America's leading manufacturers. Universal provides extra prompt sectional delivery and information from warehouses at 1000 Broad Street, Newark, N. J., and 5033 Sixth Ave., Kenosha, Wis. Write, call or wire today!

UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 6, MICHIGAN

▼ BREVITY—Identify by IEN-10777 if you write the maker ▼

ENGINE PRODUCTION SPEEDED WITH VACUUM

Some years ago this manufacturer of auto engines installed a Spencer 7½ HP Stationary Vacuum Cleaner to pick babbitt out of engine heads as they passed by on the production line. Much time was saved and they reclaimed half a ton of babbitt a day. Now the plant is provided with overhead Vacuum connections wherever needed all along the production line.

Spencer is also used for removing or conveying liquids, fumes, powders and hot materials. 356-6

150 USES FOR VACUUM . . . ASK FOR BULLETIN
THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT
SPENCER

▼ BREVITY—Identify by IEN-10778 if you write the maker ▼

EIGHT
ROPER 3600 SERIES PUMPS
INCREASE PRODUCTIVITY FOR THE GLIDDEN CO.

● The use of remotely-operated Roper Pumps at the Glidden Co., St. Louis, is not an unusual pumping application. In this case, various grades of heavy varnish are pumped from basement to the third floor mixing room, each pump serving a specific outlet.

Roper Series 3600 Pumps are valuable factors in varied installations — whether thick or thin liquids are to be pumped. Capacities from 40 through 1100 g.p.m. at 60 lbs. p.s.i. are available.

Write Today for Catalog
GEO. D. ROPER CORP.
211 Blackhawk Park Avenue
ROCKFORD, ILLINOIS

ROPER Rotary Pumps

BREVITY—Identify by IEN - 10779 if you write the maker

NEW HEAVY-DUTY FOOT SWITCH

Available with or without pedal guard, in several types

STREAMLINED to match modern machine styling • Heavy cast case, gasketed for oil-tight applications • Compact design—hugs floor—won't tip • Wide pedal, operable from three directions but protected against accidental contact or falling objects • Short stroke and slight angle of pedal eliminate ankle fatigue • Self-contained contact mechanisms easily wired or replaced • Snap action contacts, rated 600 volts pilot duty, A.C. or D.C.

Write for Bulletin 9002 AW. Square D Company, 4041 North Richards St., Milwaukee 12, Wis.

SQUARE D COMPANY

DETROIT · MILWAUKEE · LOS ANGELES

BREVITY—Identify by IEN - 10780 if you write the maker

HANSEN COUPLINGS

GIVE YOU 2 Big Advantages

● With Hansen couplings you save precious minutes every time you change air tools—every time you connect or disconnect a fluid line carrying gas, liquid or grease.

To connect, you merely push plug into socket—flow starts instantly. To disconnect, pull back sleeve on socket—coupling disconnects. Flow is shut off instantly and automatically.

Available in a wide range of sizes and types, each type engineered to meet the specific requirements of your particular application.

One size that off, two sizes that off, and straight-through types.

Write for Catalog

THE HANSEN MANUFACTURING COMPANY

4011 WEST 150th STREET • CLEVELAND 11, OHIO

BREVITY—Identify by IEN - 10781 if you write the maker

SAWING FILING

GROB BROTHERS

GRAFTON WISCONSIN

BREVITY—Identify by IEN - 10782 if you write the maker

SWITCH . . Load break, oil immersed with solenoid actuated operating unit

Source: G & W ELECTRIC SPECIALTY CO. 7782 Dante Ave., Chicago 19, Ill.

Model ES, illustrated, is a new design in the company's line of solenoid actuated spring-power operators for its Type-RA feeder-circuit oil-immersed switches. The new operator provides automatic throwover to an emergency feeder when the preferred feeder fails and automatically returns the load to the preferred feeder when it is re-energized. New feature is the added provision for selection from a remote point of the preferred feeder circuit. Switch ratings are 5,000, 7,500 and 15,000 volts.

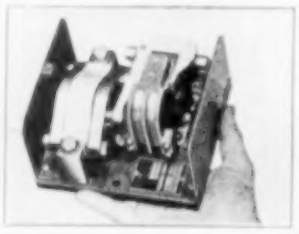
The operator mechanism is enclosed in a sealed housing fitted with a removable dome. The housing mounts directly on the supporting frame of the switch it is to control. Included in the assembly is a motor that drives a spring equipped reciprocating housing to compress one of its two springs after each switching movement to a latching point where solenoids provide the latch release action.

Bulletin DA50, 18 pages, presents illustrated data on the company's feeder switches and on their operating mechanisms. Control-circuit and operating circuit diagrams are included with a schematic layout of the operating mechanism.

BREVITY—Identify by IEN - 10783 if you write the maker

VALVE . . Four way rotary unit, magnet operated for air to 100 pounds

Source: SQUARE D CO. 4039-43 N. Richards St., Milwaukee 12, Wis.

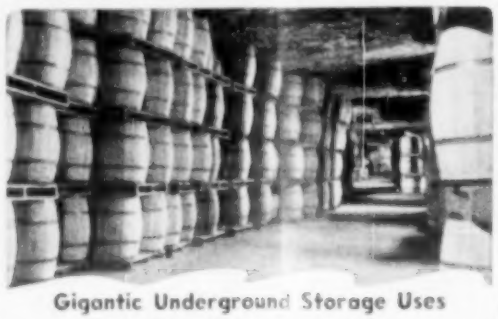


Speed to 300 cycles per min. can be maintained continuously with this new operating valve. The speed can be increased to 600 cycles on intermittent duty. The assembly has been designed to operate pneumatic double-acting cylinders on welding machines, press clutches, machine clamps. Three-way or two-way action can be obtained by plugging certain of the ports. Control centers at pushbuttons or machine-actuated devices to close and open the magnet circuit from any location. The magnet can be specified for any current ranging from 12 to 600 volts preferably ac.

The assembly measures 4 by 5¾ by 6½ inches. The ports are threaded for ⅜ in. pipe. The rotor is balanced to minimize bearing wear and is equipped with spring-loaded sealing vanes. Body and rotor are made of bronze. The magnet parts are hardened. Designation is Class 9013.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 10784 if you write the maker



Gigantic Underground Storage Uses Frick Refrigeration

Originally a limestone quarry, the Natural Cooler Storage of the U. S. Dept. of Agriculture near Atchison, Kansas, is one of the largest refrigerated warehouses in the world, having capacity for 3,000 cartons. A temperature of 32 degrees F. is held in the great cave by two Frick 4-cylinder compressors, driven by motors totaling 600 horsepower.

Frick Compressor with Motors Totaling 600 Horsepower—at Natural Cooler Storage

For that important cooling job of yours, specify Frick air conditioning, refrigerating, ice-making or quick-freezing equipment.

FRICK CO. Refrigeration Since 1882

Also Makers of Power Farming and Sawmill Machinery

BREVITY—Identify by IEN - 10785 if you write the maker

5 WAYS A BETTER BUY

1. Maximum head contact
2. Head perfectly concentric with body
3. Burnished threads - class 3 fit
4. Flush head surfaces
5. Non-slip hex wrenching

Allen

FLAT HEAD CAP SCREWS

In 95 standard sizes, NC and NF threads from leading distributors everywhere. Ideal for heavy duty fastening of thin plates, strips, moldings and sheet metal parts. Write factory for full information.

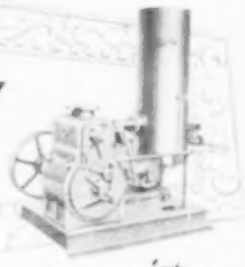
WARNING

Allen-Type screws aren't necessarily Allen-Made. Get genuine "Presser-Formed" Allen Head screws in this black and silver box.

ALLEN ALLEN HEAD MANUFACTURING COMPANY Hartford 2, Connecticut, U. S. A.

BREVITY—Identify by IEN - 10786 if you write the maker

KINNEY PUMPS



belong in your vacuum picture

In thousands of successful applications of low pressure processing Kinney Vacuum Pumps are setting the pace for speed and economy. Fast pump down means fast processing time—and that's why Kinney Pumps are so often picked for the job. They have the dependable and rugged dependability to meet the toughest service conditions in every field . . . pharmaceutical or food, metallurgical or optical, electrical or electronic.

Single Stage Models are available in eight sizes for pressures to 10 microns Hg. abs. Compound Kinney Vacuum Pumps are furnished in three sizes for test pressures to 0.5 micron Hg. abs. Send for Bulletin V45.

Kinney Manufacturing Company, 3564 Washington Street, Boston 30, Mass. Representatives in New York, Chicago, Cleveland, Houston, New Orleans, Philadelphia, Los Angeles, San Francisco, Seattle.

Making old things better • Making new things possible

KINNEY VACUUM PUMPS

BREVITY—Identify by IEN - 10787 if you write the maker

NEW HIP-POCKET TOOL

MAKES 36 JOBS EASIER

AMPROBE

snap-on volt-ammeter

reads current without interrupting service!

ONLY THE AMPROBE* GIVES YOU ALL THESE FEATURES!
- So compact, it fits in your pocket!
- To the usual size—only 7 oz.
- To the usual weight—only 14 oz.!
- Measures 5 current ranges and 2 A.C. voltage ranges!
- Accuracy . . . 3% of full scale deflection.
- Field-proved and accepted—thousands in daily use!
- At the usual price—only $49.50!

MODEL A-6
Amps: 10/25/50/100/250
Volts: 150/600
(2 other popular models available)

$49.50 Complete with leather case and voltage test leads

Look what you can do with this one, pocket-size instrument: Determine load conditions without having to shut down equipment. Spot motor overloads and underloads. Diagnose trouble calls faster, under actual load. Measure voltages at motor terminals. Set overload relays. Load balancing, etc.

Send for Bulletin 100-AM, "How to Make Your Job Easier With Amprobe." Pyramid Instrument Corp., 48 Howard Street, N. Y. 13, N. Y. (Export Dept.: Morhan Exporting Corp., 458 Broadway, N. Y. 13. Cable: Morhanexp.)

AMPROBE A PYRAMID INSTRUMENT

Also in Models for Electrical Distributors

▼ BREVITY—Identify by IEN-10788 if you write the maker ▼

LESS INVESTMENT! LESS TROUBLE!

DWYER VISI-FLOAT

A Sensitive, Unbreakable, Foolproof PRESSURE or FLOW GAGE

Consider the Dwyer VISI-FLOAT if you require a low cost, VARIABLE ORIFICE FLOW METER of good accuracy as an integral part of some new product now in design stage. This simple, ingenious device consists of a float within a transparent acrylic plastic gage glass, mounted on a metal indicator plate. It contains no liquids, has no working parts to fail. It is in one piece—ready to install, suitable for many different specialized applications where fine precision accuracy is not an absolute necessity.

TWO TYPICAL VISI-FLOAT APPLICATIONS

No. 440 STATIC PRESSURE INDICATOR—For use on dust collectors, blower units, air cooling systems, etc. Full scale ranges from 0-20", to 0-15" water available—with logarithmic pressure scale. Readings taken differentially or plus or minus from atmospheric.

No. 450 VARIABLE ORIFICE TYPE FLOW METER—For such uses as air purge lines, or as replacement of sight-feed bubblers. Three standard ranges available, based on flow of free air at standard conditions—0.2 CF/HR, 0.4 CF/HR and 0.10 CF/HR. Water flow ranges up to 100 CC/Min. also available.

Consult us today on applications of Dwyer VISI-FLOAT to your specific design problems.

F. W. Dwyer Mfg. Co.
307 S. Western Ave. Chicago 12, Ill.

▼ BREVITY—Identify by IEN-10789 if you write the maker ▼

A NEWS ADVERTISEMENT BY THE RAPIDS-STANDARD COMPANY

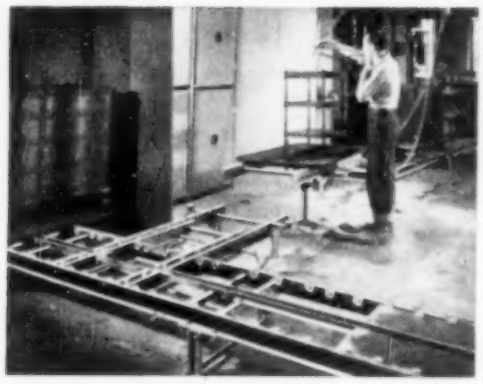
GUIDED PALLET CONVEYOR* . . Combines quality control and speed on production line

Source: The RAPIDS-STANDARD COMPANY, Inc.
353 Rapiston Bldg., Grand Rapids, Mich.

A radically different approach to production line problems — the new, Guided Pallet Conveyor permits finer workmanship, at greater speed, and at lower cost than ever before. Damage to products is virtually eliminated and work in-process is reduced. Well within the budget of any plant, this new conveyor system is quickly adaptable to widely varying assembly, processing and finishing operations. Most of the Guided Pallet line consists of low-cost gravity conveyor. At work points (see illustration) air-lift work station turntables allow pallet rotation for convenient work positioning.

The new Guided Pallet Conveyor system allows a workman to vary his time as more difficult work comes to his station. This insures fine quality and still keeps production going at average rate of speed with which the conveyor line is loaded. With the Guided Pallet Conveyor, the line can be fitted to the problem. New layouts can be made easily and quickly, whenever necessary, without expensive plant shutdowns. Line rerouting becomes as simple as the rearrangement of a toy train track.

Although Guided Pallet Conveyor permits variable processing time, the average production speed of a worker is increased, because handling duties are eliminated. On one finishing line where Guided Pallet Conveyor has been installed, two lacquer coats are now applied faster by one workman, than by two workers under the old system.



Original investment for Guided Pallet Conveyor is less than half that of other types and installation cost is approximately 75% lower. The line can be installed quickly, without interruption of normal production.

Guided Pallet technical information and typical application photographs may be obtained by writing to The Rapids-Standard Company, Inc.

To determine Guided Pallet application in your plant, consult your Rapids-Standard representative.

Rapiston® MATERIAL flow EQUIPMENT

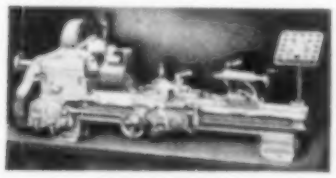
*Pat. Pend.

354 Rapiston Bldg., Grand Rapids, Mich.

▼ BREVITY—Identify by IEN-10791 if you write the maker ▼

LATHE . . Mounts on tool room bench, swings 10 in., has 3, 3½, 4 ft. bed

Source: SOUTH BEND LATHE WORKS
201 E. Madison St., South Bend 22, Ind.



Light Ten is a new lathe for bench mounting, particularly in general tool room service. It mounts a back-geared headstock for a range of speeds between 48 and 1,433 rpm. Its quick-change gear box provides 48 changes of power longitudinal feed and thread pitches between 4 and 224 per inch. Three bed lengths provide 16½ to 28½ in. between centers.

The lathe takes No. 2 Morse taper centers and has maximum ⅝ in. collet capacity. The tailstock spindle has 2¼ in. of travel and can be set over for taper turning to ⅝ inch. The cross slide travel is 5¾ in. and angular feed for the compound rest is 2¼ inches. Micrometer dial reads to thousandths.

▼ BREVITY—Identify by IEN-10792 if you write the maker ▼

INSULATING . . Flange equipped hose, short sections isolate pipe vibration

Source: FINN & CO.
2848-52 Eighth Ave., New York 30, N. Y.

Also compensates for misalignment

Soundforber (trade name) new assembly of short sections of rubber hose equipped with standard end flanges to apply in a pipe line to isolate vibration, stop noise transmission through a pipe line. The hose is made for working pressure to 250 lb. and in sizes from ½ to 24-in. pipe. Temperature in standard application is to 250 deg. F.

▼ BREVITY—Identify by IEN-10793 if you write the maker ▼

RUBBER . . Molded or fabricated using Silicone 161 rubber compound

Source: STALWART RUBBER CO.
152 Northfield Road, Bedford, Ohio

New compound known as Silicone 161 has been developed by the company and is available to specification 16 gaskets, sleeves, washers, channel, seals, tubing and molded or fabricated parts. Tensile strength is 470 to 520 lb per square inch. Elongation is 110 to 160 per cent. Specific gravity is 2.1.

The finished parts will remain solid and will not become brittle after exposure to air, ultra violet rays, ozone. They are serviceable in high temperatures, can be employed in ovens, boilers, jet engines, die-casting machines. They apply in handling hot and cold fluids.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN-10794 if you write the maker ▼

▼ BREVITY—Identify by IEN-10795 if you write the maker ▼

▼ BREVITY—Identify by IEN-10796 if you write the maker ▼

▼ BREVITY—Identify by IEN-10797 if you write the maker ▼

HYDRO-CLONE

suppresses dust from plastics

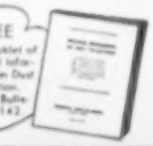
Above is the Type "R" Hydro-Clone used to assure clean air in the plastics division of a large manufacturing plant. This Hydro-Clone is specified when space is at a premium and capacity not over 12,000 cfm is required.

Type "R" is of compact design suitable for indoor installation. It reduces dust to harmless sludge . . . requires about 1 gal of water per 1,000 cu ft of air treated . . . fully described in Bulletin FY-127.

Write for full information about this and other models for every industrial need.

WHITING CORPORATION
15629 Lathrop Ave.
Harvey, Illinois

FREE
New booklet of Practical information on Dust Collection. Ask for Bulletin FY-142



▼ BREVITY—Identify by IEN-10798 if you write the maker ▼

SHEARS UP TO 1/8" STOCK

CUTS UP TO 5/16" RODS

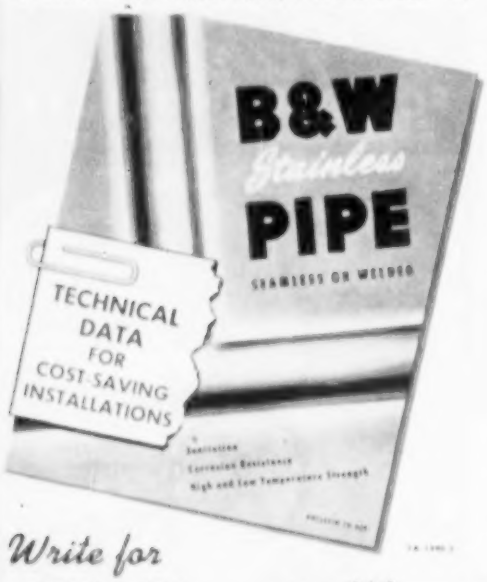
● Here's another Heinrich handyman for the shop . . . Model 1 Shear . . . a tool that cuts flat stock up to 1/8" thick, and round stock up to 5/16" in diameter. All-steel construction. This tool can be bench mounted, or, if portability is desirable, provision is made for clamping in a bench vise.

SEND FOR FREE HANDNIB FOLDER

Heinrich Handnibs, including Heavy Duty Model 4, which does shearing, notching, bending, punching and coining, are fully described in the Handnib folder. A postcard or letter will bring you free copy immediately.

NATIONAL MACHINE TOOL CO.
DEPT. 176-E, RACINE, WISCONSIN

▼ BREVITY—Identify by IEN-10799 if you write the maker ▼



Write for your copy

THE BABCOCK & WILCOX TUBE CO.
General Offices: Beaver Falls, Pa.
Plants: Beaver Falls, Pa., and Alliance, O.

B&W STAINLESS and WELDED TUBES

▼ BREVITY—Identify by IEN-10800 if you write the maker ▼

The *Original* Shaft-Mounted Reduction Drive That Gives You Any Speed Below 154 RPM

Available in Six Sizes From Your American Distributor Stock

This amazing shaft-mounted reduction unit (which they'll always call by its proper name, the American Reducrive) drives itself by itself. There's other American Reducrive drives need be your.

Quick, easy speed changes. No need to dismantle motor, gear unit or drives. You change to any speed you want simply by switching to larger or smaller standard V-belt sheaves. It's done in seconds!

Reduced maintenance. Sealed-in-oil bearings shield against contamination and reduce time spending with shaft-sealed.

Flexible—Easy to relocate. You can use American Reducrive drives anywhere—with any type of motor, any speed, any input.

The American Pulley Company
4242 WISSAHICKON AVE., PHILA. 29, PA.

Send illustrated catalog containing complete information on American Reducrive Drives.

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ STATE _____

▼ BREVITY—Identify by IEN-10801 if you write the maker ▼

CONTROL . . Recording instrument regulates air for temperature control

Source: JOHNSON SERVICE CO.
505-9 E. Michigan St., Milwaukee 2, Wis.

New Record-O-Stat is an assembly of liquid-filled temperature-sensitive bulb, capillary tube and bellows operated to regulate air pressure from a supply line and to direct this air to diaphragm valves and dampers for temperature control. At the same time the instrument leaves a temperature record on a 12 to 24-hr. chart driven by a synchronous motor from suitable supply.

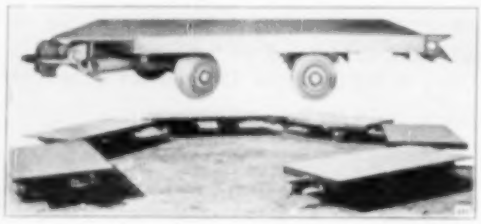
Five ranges of standard temperature are minimum at 0 to 60 deg. F., maximum at 50 to 250 deg. F. Overall range within which the instrument can be specified is between minus 125 and plus 400 deg. F. Maximum length of capillary tube between the bulb location and the instrument is 200 feet. All repeated is maximum at 20 pounds. The instrument is enclosed in an aluminum housing that measures about 14 by 8 by 21 inches.

Bulletin T-110, 6 pages, illustrates and describes the instrument and includes data on arrangement for direct-or reverse action, effect of sensitivity on control quality, mounting.

▼ BREVITY—Identify by IEN-10802 if you write the maker ▼

TRUCK . . Coupling equipped trailer, fifth-wheel design to ride in a train

Source: MARKET FORGE CO.
23-27 Garvey St., Everett 49, Mass.



Couplings at the front and rear of this new trailer permit assembly of several units into a train at 18-in. intervals between trailer ends. The fifth-wheel design keeps the train in tracking action as it is pulled along a straight line or curve. A locking device prevents jack-knifing when the train is backed up. Top dimensions are 30 by 72 inches. Height above the floor is 12¾ inches. Load capacity is 3 ton.

The 9-in. wheels are equipped with rubber tires, semi-steel Timken-bearing hubs and are mounted on 2-in. removable axles. Wheel width at the face is 5 inches. Wheel base measures 39 in. and minimum turning radius is 62 inches. Thread width is 20 in. measured on the wheel centers.

The fifth-wheel assembly supports a 30-in. stainless-steel disc turntable and pressure-lubricated king bolt. Lubrication is sealed to the main wheel bearings.

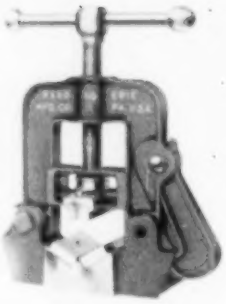
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN-10803 if you write the maker ▼

Built to last!

REED

LONG JAW PIPE VISES
Work Better, Faster, Easier.



Wrench action of ratchet, long-handled cam holds and grips firmly without slipping or marring. Lower cam jaw is reversible for double service. Patented hardened and ball-mounted Reducrive mechanism throughout. Ask your jobber.

Remember . . . In a vise or pipe tool, if it's a REED . . . it's RIGHT!

REED
MANUFACTURING COMPANY
ERIE, PENNSYLVANIA

▼ BREVITY—Identify by IEN-10804 if you write the maker ▼

All plant managers should know these facts about pressure-treated lumber

FIRST PROTECTION—Treating of lumber preservative—not an allegic preservative outside. The purpose is to protect lumber against costly rot and termite damage, and to protect your plant investment.

SECOND PRESSURE TREATMENT VS. SURFACE APPLICATION—Authorities say that pressure treating for earth-surface application because it penetrates deep into the fibers of the wood.

THIRD OTHER QUALITIES TO LOOK FOR—For genuine usefulness, preservatives used in treating lumber also should be clean, odorless, paintable, non-leaching and non-corrosive.

FOURTH WOLMANIZED Pressure Treated Lumber combines all these requirements—lasts 3 to 5 times longer than untreated wood, because it's treated under 100 lbs. pressure per square inch. It's clean, odorless, paintable, non-leaching, non-corrosive.

For complete facts about WOLMANIZED® Pressure-Treated Lumber, write for free booklet.

WOLMANIZED PRESSURE TREATED LUMBER

AMERICAN LUMBER & TREATING COMPANY

Branch Offices: Baltimore, Boston, Jacksonville, Fla., Little Rock, Ark., Los Angeles, New York, Portland, Ore., San Francisco
General Offices: 1940 McCormick Bldg., Chicago 4, Illinois

▼ BREVITY—Identify by IEN-10805 if you write the maker ▼

JABSCO
SELF PRIMING PUMPS

the pump with the DUPONT NEOPRENE impeller

BRONZE, STAINLESS STEEL & IRON CONSTRUCTION — CAPACITY TO 50 GALLONS PER MINUTE

1 MORE CAPACITY—for its weight, size and price.
2 SELF-PRIMING—starts instantly with high suction lift.
3 ONE MOVING PART—tough, long-lived.
4 GEARLESS—impeller outlasts metal gears.
5 TROUBLE FREE—simple construction.
6 ECONOMICAL—low cost—low maintenance.

LIQUID TRANSFER AND CIRCULATING FOR ALL INDUSTRIES

JABSCO PUMP COMPANY
2031 N. Lincoln Street • Burbank, California

▼ BREVITY—Identify by IEN-10806 if you write the maker ▼

FROM 25-125 erratic threaded holes per tap

TO 22,000 clean class 3 threaded holes per tap

HERE'S HOW HY-PRO DID IT...

PART: 18-8 stainless steel hex nut with punched hole.

PROBLEM: Tapping with a 5/16 tap, a leading nut maker had experienced difficulty holding size and was troubled with excessive tap breakage.

Then They Called in the HY-PRO Sales Engineer

HY-PRO SOLUTION: His recommendation was a standard Hy-Pro Tap machine screw tap with one of the exclusive Hy-Pro surface treatments for wear and lubrication. Speed and cutting oil were adopted from extensive tables in Hy-Pro catalog. Production with Hy-Pro taps now averages 22,000 burr-free Class 3 threaded holes at 6 units per minute.

℞ Let Hy-Pro solve your tapping problem too—call a Hy-Pro Sales Engineer today.

Order from your Distributor

HY-PRO TAPS

HY-PRO TOOL CO.
NEW BEDFORD, MASSACHUSETTS
A SUBSIDIARY OF CONTINENTAL SCREW COMPANY

▼ BREEZITY—Identify by IEN-10807 if you write the maker ▼

This kitchen floor may SOLVE YOUR FLOORING PROBLEM

One important reason Tile-Tex® Plastic-Asbestos Tile was chosen for the above job is because of its exceptional grease resistance.

Chances are you may need this quality in work areas, too . . . where oil and grease from machines and tools hit the floor.

And you may want it in combination with other qualities such as ability to withstand heavy traffic with materials handling trucks . . . easy economical maintenance . . . quick installation . . . long service life . . . adaptability to functional or decorative design.

If these are what you want in heavy duty industrial flooring, you can't do better than to specify Tile-Tex. It gives you all these and other qualities that add up to a great deal of floor for your money.

Get the complete story on Tile-Tex, and how it can help solve your flooring problems. Write THE TILE-TEX DIVISION, The Flinkote Company, Dept. L, 1234 McKinley St., Chicago Heights, Ill.

OFFICE AREAS BRIGHTEN UP WITH FLOORS OF TILE-TEX® . . . THE QUALITY ASPHALT TILE

TILE-TEX FLOORING PRODUCTS

▼ BREEZITY—Identify by IEN-10808 if you write the maker ▼

"FROM NOW ON... IT'S NELSON PORTABLE HEATERS FOR ME"

THE HEATER WITH THE

SEALED FLAME

THAT POSITIVELY PREVENTS CARBON MONOXIDE POISONING!

Smart operators in the construction business are making certain Herman Nelson Portable Heaters are at work for them. There's a one-word reason—SAFETY!

When a builder finds he gets more production from workmen, gets a unit that is so adaptable he can use it for heating, thawing or drying anywhere, anytime—he's sold and he'll tell you so. Remember, this is heat that pays for itself!

That's why more Herman Nelson Portable Heaters than ever will speed construction jobs through the coldest months this winter.

MAKE A DEAL now with your nearest Herman Nelson dealer—while he can supply you without a long wait. For his name just write to Dept. IN-11 at the address below.

Today's Best Buy is Better Air!

HERMAN NELSON DE LUXE I MODEL PORTABLE HEATER

Electric Motor Powered
Uses Kerosene for Heating Fuel
280,400,000 BTU Capacity
Totally Enclosed Stainless Steel Combustion Chamber
Completely Automatic Operation
Automatic Temperature Control
Free from Dangers of Fire, Smoke and Noxious Gases
Remote Control Thermostat Optional
Easily portable by One Man

AAF Herman Nelson Moline Illinois

HERMAN NELSON DIVISION

AMERICAN AIR FILTER COMPANY, INC.
Moline, Illinois

▼ BREEZITY—Identify by IEN-10810 if you write the maker ▼

MARKING . . Pneumatic tool stamps identification in hot metals

Source: PANNIER CORP.
101 Pannier Bldg., Pittsburgh 12, Pa.

Master Marker trade names new single-stroke pneumatic tool to stamp identification such as type, cut, heat and weight numbers or letters in steel, metals, fibrous bar stock. The tool mounts on wheels on a structural track to be brought into contact with the work. It connects at the rear to a shop line for 80 to 100% air supply. An impression is made when the gun is tripped at a valve at the rear end.

The head takes a maximum of 12 interchangeable 5/16 grooved steel type. The head plate is hinged at the top and latched at the bottom so it can be swung up for type changes. Cartridges holding single-line type setups write into and out of operating position. Assembly weight is 100 pounds.

▼ BREEZITY—Identify by IEN-10811 if you write the maker ▼

HANDLING . . Plastic bucket for corrosive chemicals is unbreakable

Source: UNITED STATES RUBBER CO.
1230-32 Sixth Ave., New York 20, N. Y.

List price about $9.

Capacity is 12 quarts for a new bucket to handle corrosive chemicals. The bucket is made of the chemicals-resisting rubber-plastic compound known as Ecomp. Each has a handle made of the same material.

The bucket is not subject to attack by aliphatic solvents, alkalies, certain acids and corrosives up temperatures to 150 deg. F. It is not intended to handle fumes, glacial acetic or concentrated nitric and sulphuric acids, aromatic solvents, esters or ketones. It will handle nitric and sulphuric acids in concentrations under 50 per cent.

▼ BREEZITY—Identify by IEN-10812 if you write the maker ▼

GAGE . . Depth micrometer with rods for 0 to 3 in. or 0 to 6 in.

Source: L. S. STARRETT CO.
100 Starrett St., Athol, Mass.

No. 449 is a new depth micrometer reading in thousandths and providing a thimble movement through 1 inch. The unit applies with three interchangeable rods for an overall range to 3 in. or with six rods to 6 inches. Two available base lengths are 2½ and 4 inches. The rods are flat in their locking sections measuring .025 by .125 in. along their sides.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREEZITY—Identify by IEN-10813 if you write the maker ▼

Prefabricated Ric-wil Accessories lower installation costs and insure top operating performance

The complete Ric-wil Pipe Engineering Service assists engineers and contractors, and assures users of Ric-wil Insulated Piping of the most economical installation and high-efficiency performance. Ric-wil piping engineers can help solve special or intricate piping problems with a prefabricated system that will match the original cost estimate and fit accurately when it gets to the job.

All Ric-wil products are engineered . . . not to a general requirement . . . but to the specific requirement of the user. They are built of the finest tested and proven materials.

For full technical information on Ric-wil Insulated Piping Systems, call or write the Ric-wil office nearest you or Department 11-E-A in Cleveland, Ohio.

CALL WIRE WRITE

OVERHEAD • UNDERGROUND

THE RIC-WIL COMPANY • CLEVELAND, O.

FOR FORTY YEARS THE GREATEST NAME IN INSULATED PIPING SYSTEMS

▼ BREEZITY—Identify by IEN-10814 if you write the maker ▼

The NORTHERN *Motorized* TRAVELATOR

Modernize your older hand power cranes with NORTHERN TRAVELATORS—your own men can install them in a few hours. Make your skilled labor more productive by using the quicker, safer, motorized TRAVELATOR.

it is labor SERVING

★ WRITE FOR BULLETIN NO. 1347 ★

NORTHERN ENGINEERING WORKS, 2615 Atwater St., Detroit 7, Mich.

NORTHERN CRANES AND HOISTS

▼ BREEZITY—Identify by IEN-10815 if you write the maker ▼

TOE CONTROL ELIMINATES KNEE ACTION

Electric foot switch cuts operator fatigue

HEAVY SHEARING MADE EASY

If you have spent a day at a shear with the old mechanical foot treadle, you know what knee action is. As the hours roll by it grows more and more tiresome, fatiguing, and production slips accordingly.

Steelweld has done something about it. Electric foot switches have been adopted as standard equipment. Knee action has been replaced by fast easy toe control.

Steelweld Shears are in a class by themselves. Sizes for cutting 1/8" to 1-1/2" plate to 18'-0" long.

STEELWELD Power-Driven SHEARS CATALOG No. 2011

Send for free copy Catalog No. 2011

THE CLEVELAND CRANE & ENGINEERING CO.
4227 East 282nd St., Wickliffe, O.

STEELWELD SHEARS

▼ BREEZITY—Identify by IEN-10816 if you write the maker ▼

Slash...! FLOOR MAINTENANCE COSTS with EMERI-CRETE FLOORING

Floor repair and replacement costs can be a thing of the past with EMERI-CRETE FLOORING . . . the toughest, hardest flooring material ever used!

Made of CORUNDUM EMERY AGGREGATE, cement and water, it is hard, smooth and skid-proof. Ideal for new heavy-duty floors or resurfacing old ones—EMERI-CRETE FLOORING can readily be laid by your maintenance department or accredited local contractor. This harder smoother floor means easier moving equipment, lower handling and operating costs, and reduced accidents.

Write for our FREE Proof-Positive Folder No. 601. Read how plants in every industry are enjoying years of maintenance-free service. Lists users, many installations.

Walter Maguire Co., Inc., Dept. IN-11
60 East 42nd St., New York 17, N. Y.
Name
Title
Company
Address
City Zone State

EMERI-CRETE FLOORING

▼ BREVITY—Identify by IEN-10817 if you write the maker ▼

Safer Power-Supply for Traveling Hoists NEW Type "Y5"

APPLETON REELITE TRADE MARK

- AUTOMATICALLY TAKES UP, PAYS OUT CONDUCTOR CABLE...
- NO EXPOSED CURRENT COLLECTORS, TROLLEYS OR WIRES

Mounted mid-way, serves any electric hoist, traveling up to 90 feet on straight or curved track. Spring controlled, keeps cable gently taut and reeled up out of the way in harmony with movement of hoist. Safety grounding through extra conductor. Oil-less bearings. Rating: 15 amperes—550 volts, A. C.; 250 volts, D. C.

SEND TODAY!... For Bulletin 504. Complete information on all types of Appleton Reelites. Or, see Sweet's File, 2e/10a.

Sold Through Electrical Wholesalers

APPLETON ELECTRIC COMPANY
1716 Wellington Ave. • Chicago 13, Ill.
Branch Offices and Resident Representatives in all principal markets

APPLETON
CONDUIT FITTINGS • LIGHTING EQUIPMENT • OUTLET AND SWITCH BOXES • EXPLOSION PROOF FITTINGS • REELITES

▼ BREVITY—Identify by IEN-10818 if you write the maker ▼

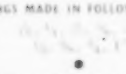
How SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!

Patents Pending

One of the most difficult problems in tool making can be solved easily and quickly with Sturdy Square Holed Sleeves. The perfection of broached square holes can be had in boring bars, milling cutters and many other applications at a small fraction of the cost or imperfect hand-made square holes. The Sturdy Square Holed Sleeve consists of a round sleeve with a perfectly square hole broached through the center. This hole is tapped at one end to receive a back-up screw which is furnished with the Sleeve. The Sleeve can be sweated or pressed into a drilled and reamed hole to make a perfectly square accurate hole in a very few minutes.

The Sturdy Square Holed Sleeve will save you many hours and many dollars in the making of boring bars, tool holders and other tools requiring square holes.

BUSHINGS MADE IN FOLLOWING SIZES:



Write for Literature

STURDY BROACHING SERVICE
1908 TELEGRAPH ROAD, DETROIT 13, MICH.

▼ BREVITY—Identify by IEN-10819 if you write the maker ▼

WHAT'S NEW IN PACKAGING ADHESIVE RESEARCH?

USERS of adhesives find it pays to know what's new, more productive and efficient for labeling, sealing and fabricating operations. They have found *extra profits* and lowered costs by depending upon *Paisley Scientific Adhesive Service* for the *ONE best* Glue, Paste or Cement to meet the exacting needs of their adhesive operations. Write for and return our "*Adhesive Operation Data Sheet*" for FREE analysis and recommendations.

SEND FOR new Paisley 8 page General Adhesive Folder. Shows all that is newest and best in adhesive research.

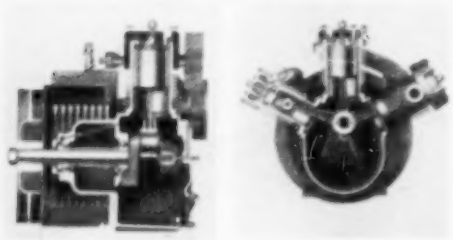
Paisley ADHESIVE

PAISLEY PRODUCTS INCORPORATED
Manufacturers of Glues, Pastes, Resin Adhesives, Cements and Related Chemical Products
1770 CARALPORT AVE., CHICAGO 16, ILL. • 630 W. 51st STREET, NEW YORK 19, N. Y.

▼ BREVITY—Identify by IEN-10820 if you write the maker ▼

COMPRESSOR . . Two stage, air cooled, for 125 or 200 lb. service, to 82 cfm.

Source: INGERSOLL-RAND CO.
746 Morris Ave., Phillipsburg, N. J.



Series T designates new line of two and three-cylinder air-cooled compressors. The line includes the bare units, baseplate assemblies with engine or motor drive, receiver-mounted assemblies with motor drive. The compressor can be supplied for 125-lb. service with speed at 1,000 to 900 rpm. and corresponding piston displacement of 40 to 81.8 cfm. It is available also for 200-lb. constant duty or 250-lb. intermittent duty. Displacement is 36.4 to 72.7 cfm. with speed at 900 rpm. in the 200-lb. units.

The first three of the five sizes in the line employ two cylinders. The other two mount three of which two are in the first stage and one in the second. Air is drawn in through felt filter pads to enter and leave the low-pressure cylinders through concentric annular ring plate valves in the heads. The first-stage air passes through a large number of finned copper intercooler tubes nested around the crankshaft housing on the flywheel side. Vanes in the flywheel drive cooling air over them. Similar ring-plate valves are mounted in the high-pressure cylinder head. All are quickly accessible.

The crankshaft rides on ball bearings. A centrifugal unloader on the crankshaft end in the crankcase releases pressure in the cylinders when the compressor stops so it can start again free. Motor rating is 7½, 10 or 15 hp. Bare compressor dimensions are 27 to 34 in. across the cylinders, 21½ to 26½ in. in line with the crankshaft, 21 to 29 in. in height.

Bulletin, "T Series, Type 30 Compressor," 8 pages, presents data on construction, dimensions, ratings.

▼ BREVITY—Identify by IEN-10821 if you write the maker ▼

POLISHING . . Endless belt sets up with abrasive for machine use

Source: INDUSTRIAL LUBRICANTS CO.
14457-61 Wildemere, Detroit 6, Mich.

Rayon-Resin is a new polishing belt of patented construction that includes a neoprene inner face and a rayon polishing face. The belt sets up with abrasive and adhesive in usual manner and applies on a belt-type polishing machine. Service tests over a period of time indicate the belt to be capable of as many as a thousand setups with no raveling and with stretch or shrinkage within 2 per cent. Widths range from 2 to 40 in. and lengths from 96 to 108 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN-10822 if you write the maker ▼

. . . the new separable

FLEXCO HINGED BELT FASTENERS

U. S. Patent No. 2,177,855

- For mining grades, trenchers, ditcher and other earth moving conveyor belts.
- For belts ⅜" to 1½" thick.
- A FLEXCO fastener that is HINGED. Has removable hinge pin.
- Troughs naturally, operates through take-up pulleys. Strong, durable . . . pull or tension is distributed uniformly across joint.

Order From Your Supply House. Ask for Bulletin HF 500.

FLEXIBLE STEEL LACING CO
4610 Lexington St., Chicago 44, Ill.

▼ BREVITY—Identify by IEN-10823 if you write the maker ▼

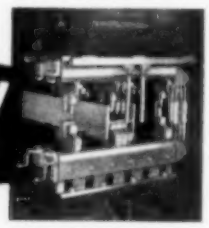
● Put HERC-ALLOY Steel Chain on the toughest job you can find. Let HERC-ALLOY service-experience records give you first hand, the undeniable answers in black and white.

Production executives and safety directors who have used HERC-ALLOY for slings or other applications agree they have yet to find an alloy steel chain superior to HERC-ALLOY.

COLUMBUS McKINNON CHAIN CORPORATION
(Affiliated with Chisholm-Moore Hoist Corporation)
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
SALES OFFICES: NEW YORK • CHICAGO • CLEVELAND • SAN FRANCISCO
Other Factories at Angola, New York, St. Catherines, Ontario and Johannesburg, S. A.

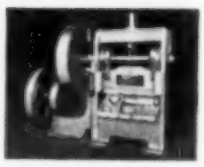
▼ BREVITY—Identify by IEN-10824 if you write the maker ▼

BEATTY



BEATTY Adjustable Tools punch webs of beams, channels, legs of angles, plates.

METAL WORKING TOOLS —— are the product of broad experiences and skill aimed at solving a specific problem. If you have such a problem, let a Beatty engineer work with you on it. Our broad experience in metal working production qualifies us to handle the most difficult assignment.



BEATTY Guillotine Shear for short, inter-shearing without changing tools.

BEATTY Spacing Table handles flange and web punching without roll adjustment.

BEATTY MACHINE AND MFG. COMPANY
HAMMOND, INDIANA

▼ BREVITY—Identify by IEN-10825 if you write the maker ▼

HOLTITE-Phillips Recessed Head Screws and Bolts cut fastening time in half. Spiral and power drivers can be safely used, even on finished parts, by women and green hands. Easy driving in hard-to-get-at places. Stronger, neater, vibration-resisting fastenings.

CONTINENTAL SCREW CO. NEW BEDFORD, MASS., U.S.A.

HOLTITE standard line of slotted head fastenings comprises a complete range of precision-made assembling units with structural strength beyond ordinary demands. There's a HOLTITE product for every use and purpose. Specify them on your next order.

▼ BREVITY—Identify by IEN-10826 if you write the maker ▼

▼ BREVITY—Identify by IEN-10827 if you write the maker ▼

Nowhere does WESTON *dependability* and *value* pay bigger returns than on the panels or controls of electrical equipment. By consistently *telling the truth*, they help assure efficient performance of the equipment in users' hands . . . where *so much* depends on instrument performance. Moreover, the name WESTON on a panel instrument gains instant recognition . . . helps build buyer acceptance for the products on which they are installed. Available in types, sizes, ranges and styles for all needs. Ask your nearest WESTON representative for all the facts, or write for bulletin A-7-B. WESTON Electrical Instrument Corporation, 658 Frelinghuysen Avenue, Newark 5, New Jersey.

WESTON
Panel Instruments

▼ BREVITY—Identify by IEN-10829 if you write the maker ▼

LIGHTING . . Heavy duty floodlight for yards and construction equipment

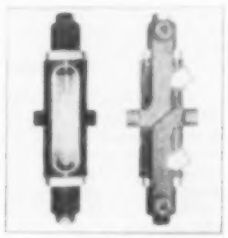
Source: WESTINGHOUSE ELECTRIC CORP.
511 Wood St., P. O. Box 868-A, Pittsburgh 30, Pa.

Aluminum body and door frame seal in closed position on an asbestos-graphite gasket. Another similar gasket applies between frame and lens in this new Type CA-10 floodlight. The recessed reflector is made of Duraluminum Alclad aluminum. Its polished surface is Alzaklad. A medium screw socket takes a 200-watt lamp. A focusing mechanism is included. The lens is pressed Soxal resisting glass and is available in plain, diffusing or spread beam designs as required.

▼ BREVITY—Identify by IEN-10830 if you write the maker ▼

METER . . Horizontal adapter for company's flow meter in pipe line

Source: FISCHER & PORTER CO.
25 County Line Road, Hatboro, Pa.

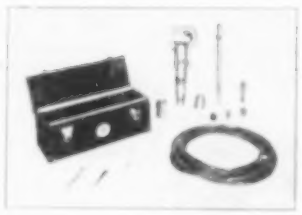


New adapter to apply the company's Flowmatic flow meter in a horizontal line is a two-part unit that applies on the back of the meter. One part connects to the bottom inlet. The other connects to the top outlet. The two together present in-line openings for application in the horizontal line. Sizes range from ¾ to 6 in. line connections for meter ratings from 15 to 300 gpm. based on handling water.

▼ BREVITY—Identify by IEN-10831 if you write the maker ▼

ROCK DRILLING . . Pneumatic hammer and accessories for utility application

Source: GARDNER-DENVER CO.
50 S. Front St., Quincy, Ill.



Type S-17 is a new 19-lb. self-rotating pneumatic rock-drilling hammer that is supplied in a steel carrying case with a 25-ft. hose, a 14-lb. drill steel, three sizes of detachable rock-drill bits and a star-drill adapter. The hammer applies to drilling foundation bolt holes, to cutting through concrete and brick walls to run pipe lines and conduit. It can be used also, with the rotation cut out, for light chipping.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

▼ BREVITY—Identify by IEN-10832 if you write the maker ▼

▼ BREVITY—Identify by IEN-10833 if you write the maker ▼

ELECTRIC HOISTS . . . with a wide range of usefulness

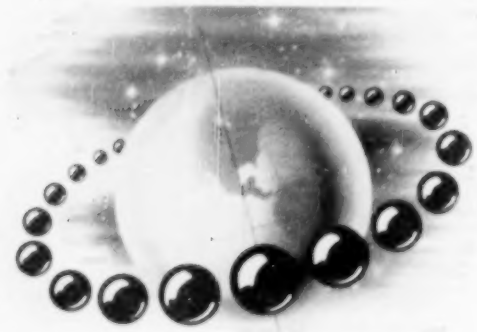
The SPEEDWAY line of electric hoists includes models for practically any application up to 10 ton capacity. Motors, all built to NEMA specifications, are interchangeable. Cable drums are grooved. Cables are of Preformed wire rope with fittings securely swaged on. Gears of alloy steel, heat-treated and hardened. Mountings available: base; lug; hook; plain geared, motor-driven or close headroom trolley. Write for bulletin of specifications, DH-60.

WRIGHT HOIST DIVISION
American Chain & Cable
York, Pa.

▼ BREVITY—Identify by IEN-10834 if you write the maker ▼

▼ BREVITY—Identify by IEN-10835 if you write the maker ▼

▼ DIRECT—Identify by IEN-10836 if you write the maker ▼



Around the World it's

HOOVER BALLS

made of

CHROME STEEL - CARBON STEEL - STAINLESS STEEL BRASS - BRONZE AND MONEL METAL

"America's Foremost Ball Manufacturer"

HOOVER BALL AND BEARING CO.
Ann Arbor, Michigan

▼ DIRECT—Identify by IEN-10837 if you write the maker ▼

SPEED PRODUCTION WITH

10-DAY DELIVERY

SPEED DESIGN WORK WITH

FREE TEMPLATES

SAVE INSTALLATION SPACE WITH

O-M CYLINDERS

Ortman-Miller cylinders for air, hydraulic and water applications are available in the full range from 1½" to 8" bores on ten day delivery! Add this to the other advantages of space saving and simplicity of design (no tie rods, no bulky end caps). All machined steel (no castings) and bearing bronze. Complete selection of interchangeable mounting devices. Write today for details and services of your distributor.

And . . . write today for free complete set of templates in one full and full scales. Precision drawn to save your time!

ORTMAN-MILLER
MACHINE CO., INC.
1208 150th Street, Hammond, Indiana

▼ DIRECT—Identify by IEN-10838 if you write the maker ▼

Your "babies"

Stronger fastener-type parts at lower production cost by the Kaufman Process

• Check the possibility of having your special design formed and threaded parts made at Cleveland by the Kaufman Double Extrusion Process. Get fast economical production (of production run items) and extra strength and precision. Send blue prints and specifications for estimate.

CLEVELAND Top Quality FASTENERS

Send blue prints and specifications of your specially designed parts to

THE CLEVELAND CAP SCREW COMPANY
2017 EAST 79TH STREET — CLEVELAND 4, OHIO

For Your Special Information

ALL MAKERS ARE LISTED — IEN S-36

Many attempts have been made to go "editorially selective" in setting up headings for subjects in product directories. Every one has fallen short of accomplishing its purpose because no editor, or anyone else for that matter, is able to say what each product should be called or what principal purpose each one serves. The average directory user does not know this and simply assumes that any directory is incomplete when he picks his own designation and then cannot find it.

That is why Thomas' Register is preferred by so many plant and purchasing men. It is set up to list all products made in the United States by all of the names under which it may be known. The sole editorial aim is to be complete and inclusive.

The 1951 edition is now being made ready for the press. It will be available shortly after the first of the year. We advise your consideration now if you want to make certain to receive a copy for your "where to buy it" information in the months ahead. Subscription is $15 if you have not subscribed before; $12 for your renewal.

FOR YOU TO LOOK THROUGH — IEN S-37

Industrial Equipment News has come up through the years as a logical companion publication with Thomas' Register. It set out in 1925 to secure and publish information concerning the new products developed for industrial use among all that are listed in the Register. It has now published descriptions of some 40,000 new industrial products and is adding another 250 each month.

These new products are assembled for you to look through with your own problems in mind. The approximate 800 alphabetical subjects are there also for your reference. We suggest that you turn the pages making notes of what you find. Then go back and turn to more detail those you checked until you have a list of the ones on which you desire complete information. Use the subject index to make certain you have seen everything of interest to you.

You can send us the list of identifying numbers and we will forward your inquiries to each manufacturer you have indicated or you can write to them direct using the addresses we have supplied. We hope you will thus solve all of your current problems. If you do not, however, tell us about the remaining ones so we will have the opportunity to make suggestions. This service is at your command without obligation. We will either answer your special inquiries with knowledge of previous experience in the subject or we will publish your request for help in the "I Wish I Had" column to ask all our readers.

Top Management:

YOUR BOOST

IS NEEDED MOST

▼ DIRECT—Identify by IEN-10839 if you write the maker ▼

Cuts grime from floors... *and picks it up, too!*

With its hundreds of flying cutters, the TENNANT Model "K" literally pulverizes incrusted grime . . . and picks it up, too! The job is done in one *fast, easy,* one-man operation. The powerful Model "K" gets in close to machinery . . . works fine in crowded aisles . . . doesn't interfere with production . . . cleans 6 to 20 times faster than hand labor . . . leaves clean, smooth floor *ready for traffic.*

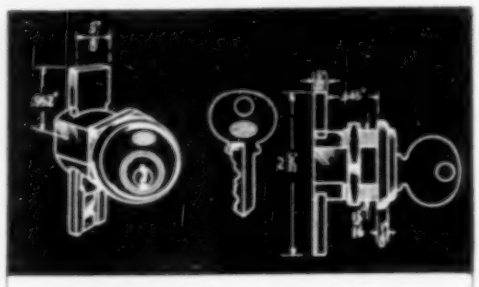
• Cuts grime loose
• Smooths & levels
• Picks up sellage

WRITE for Bulletin 81.5

G. H. TENNANT CO.
2574 2nd St. N., Minneapolis 11, Minn.

TENNANT

▼ DIRECT—Identify by IEN-10840 if you write the maker ▼

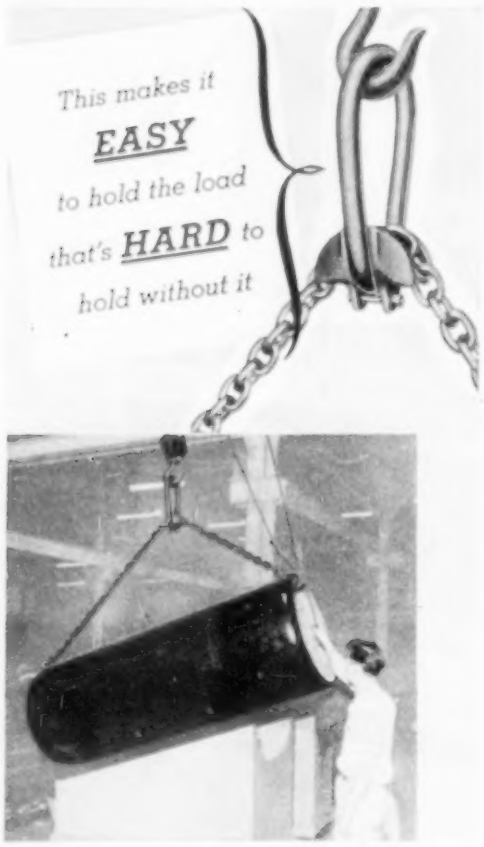


CORBIN ENGINEERS

welcome inquiries for any special or involved locking device that presents a problem. Corbin Industrial Catalog 99-I shows special cam locks in Pin Tumbler or Disc mechanism and will be sent upon request.

CORBIN CABINET LOCK DIVISION
The American Hardware Corporation
NEW BRITAIN, CONNECTICUT

▼ DIRECT—Identify by IEN-10841 if you write the maker ▼



The New **ACCO** Sling Chain Adjuster
—a Safety Measure and a Work Saver

• It comes as a complete unit—Pear Shaped Link, Adjuster and Single Sling with hooks at both ends. Slings of "85" and "125" ENDWELDUR steel chain—from ½" to ⅝"—Link and Adjuster sized to correspond to size of chain. Length of chain to your specification.

Your AMERICAN CHAIN distributor can give you detailed information—capacities, recommended sizes, prices, etc.

ACCO — York, Pa., Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, Portland, San Francisco, Bridgeport, Conn.

AMERICAN CHAIN DIVISION
AMERICAN CHAIN & CABLE

In Business for Your Safety

▼ BREVITY—Identify by IEN-10843 if you write the maker ▼

Nylon Elastic Stop Nut Offers Extra Reusability

A new nylon collar insert now expands the reusability of ESNA Elastic Stop Nuts to more than 200 on-off cycles.

This increased reusability range permits designers to specify the standard fiber insert Elastic Stop Nut for all normal assemblies that may require five, eight, ten, or more re-uses, or Elastic Stop Nuts with the new nylon insert for assemblies that may require frequent disassembly and reassembly. Built in one piece with a locking insert collar, both the standard Elastic Stop Nuts and the new nylon insert Elastic Stop Nuts are applied to studs or bolts with standard nut runners. The famous Red Elastic Collar grips threads, and *holds where it's set*, regardless of vibration or impact.

On machine tools, household appliances, portable tools, automotive and railroad equipment, Elastic Stop Nuts every day solve fastening problems created by the effects of vibration. In addition, Elastic Stop Nuts solve problems of: (1) prestressing bolts for proper load distribution (2) setting and maintaining proper spring-loaded adjustments (3) protecting bolt threads against corrosion (4) providing the feature of reusability—without major design changes.

For a free bulletin on the uses of Elastic Stop Nuts write to Elastic Stop Nut Corp. of America, Union, N. J.

▼ BREVITY—Identify by IEN-10844 if you write the maker ▼

NEW...

Extremely sensitive

PRESSURE & VACUUM

Switches

The new Type SB pressure and vacuum switches are for use in applications in which close on-off differentials and absolutely consistent maintenance of cut-in and cut-out settings are essential in the control of pressure or vacuum. Available are two pressure models and two vacuum models. The Pressure Switches have adjustable ranges from 0-15 psi and adjustable on-off differential from .1" wc-10" wc. They may be furnished as calibrated, micrometer type or uncalibrated for screw driver adjustment.

Electrical ratings of 125/250 V AC between 1200 watts and pilot duty, depending on differential. The Vacuum Switches offer adjustable ranges from 30" Hg vac with adjustable on-off differential from .1" wc-10" wc. Furnished as calibrated micrometer type or uncalibrated with screw driver adjustment. Electrical ratings of both models 1200 watts at 125/250 V AC.

Special models available for requirements not included in the specifications above.

Write for new bulletin 4920 P giving complete details today.

UNITED ELECTRIC CONTROLS COMPANY
80 School Street
Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

▼ BREVITY—Identify by IEN-10845 if you write the maker ▼

HAVING TROUBLE WITH DECORATIVE COATINGS ON PLASTICS?

Logoquent is the answer when decorative coatings chip or peel from plastic parts. When properly applied, Logoquent will not chip or peel off any plastic and it withstands extreme humidity and outdoor weathering tests, too. This material is available in many colors and it may be brushed, silk screened or sprayed.

TRY THIS SIMPLE TEST

Scratch a deep "X" through your present coating. Apply "scotch" tape as shown, press down firmly and then remove tape with a jerk. A weak bond will be indicated by film adhering to the tape. We welcome this test with Logoquent.

WRITE TODAY for a free Logoquent-coated polystyrene chip to make any test you like.

See how Logoquent will solve your problem economically.

BEE CHEMICAL COMPANY

13799 South Avenue "O" Chicago 33, Ill.

▼ BREVITY—Identify by IEN-10846 if you write the maker ▼

VALVE . . Motor operated design opens upon remote switch actuation

Source: SARCO CO.
Empire State Bldg., Room 2925, New York 1, N. Y.

Sarcostat (trade name) new motor operated valve is which the top mounted motor drives a small pump to act upon a diaphragm piston and move the valve to open from normally closed position. The motor can be actuated by a remote pushbutton switch or by an ordinary two-wire switch or a thermostat or pressurestat. The valve opens when the motor circuit is closed. It remains open until the electric circuit is broken. Sizes range from ½ to 8 in. with maximum pressure at 175 to 6 in. in single-seated design to 6 in. and from 175 to 50 in. in sizes to 8 in. when double seated. List prices are $113 to $328.

Action is started in the valve 1 by closing switch 2, assuming that the line switch has been closed. This starts the motor 3 and closes valve 14 by means of the solenoid 16. The motor drives a pump 4 to force oil from the sump 5 to the cylinder 6 above piston 7. The piston moves down and the valve opens. Upon reaching open position the adjustable plunger 8 opens the normally closed limit switch 9 to stop the motor.

Opening the switch 2 breaks the circuit through the solenoid so valve 14 opens. Oil then flows back to the sump 5 and spring 12 returns the piston as the valve closes. The valve will open in 60 sec. and will close in 10 with the standard 1 in. stroke.

▼ BREVITY—Identify by IEN-10847 if you write the maker ▼

ELEVATOR . . Portable table unit measures 24 to 36 in., rates 1 ton

Source: ECONOMY ENGINEERING CO.
4502 W. Lake St., Chicago 24, Ill.

List price is $210 for this new portable elevating table with which a 1-ton load can be moved from one location to another and can be lifted or lowered in a range between 24 and 42 in. above the floor. Mounting is on two rigid and two swivel casters with 5-in. wheels. Equipment includes a floor brake.

The load is supported on four A-type Dural cross members that are connected by chain to a hand-operating crank shaft. Tilted flow shafts with squared ends are located at one end of the table. The two provide separate operating speeds.

All Makes of Them And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

▼ BREVITY—Identify by IEN-10848 if you write the maker ▼

MERRILL LIFTING CLAMPS

THE HEAVIER THE LOAD THE TIGHTER THE GRIP!

Safer and Speedier Lifting at Less Cost . . . have made MERRILL-Velz LIFTING CLAMPS the choice of large Steel Mills everywhere.

SAFER
- Safety factor of 5 to 1.
- Factory tested at double rated capacity.

GREATER SPEED AT LESS COST
- Entirely Drop Forged and Heat Treated.
- Working parts entirely enclosed.
- Pins do not rotate in frame eliminating wear.

Available in Stainless Steel.

Sold by Better Distributors Everywhere.

MERRILL BROTHERS

56-14 ARNOLD AVENUE
MASPETH, N. Y.

Producers of DROP FORGED SHACKLES, CLEVIS NUTS, TURNBUCKLES & EYE BOLTS.

▼ BREVITY—Identify by IEN-10849 if you write the maker ▼

Accurate-Dependable Batching

of light or heavy liquids

Complete Jacketed Pipe Systems for All Liquid Handling Problems

The FLUIDOMETER System is an accurate, dependable, automatic metering equipment for the batching of either light or heavy liquids. The FLUIDOMETER resets automatically. There is no lost time resetting metering controls, no errors due to incorrect resetting. Invaluable in large scale production work requiring steady repetition of operations. Available in jacketed construction for maintaining uniform temperature in process pipes. Write for new bulletin FL-49.

HETHERINGTON & BERNER INC. — 725 Kentucky Ave., Indpls. 7, Ind.

FLUIDOMETER

Automatic Metering System

▼ BREVITY—Identify by IEN-10850 if you write the maker ▼

ELIMINATE WIRES

through use of

DU PONT CONDUCTIVE COATINGS

Easily and rapidly applied by spray, brush, dip, stencil to metals and non-conductors, they give a conductive surface of low resistance. One tiny ounce covers about 3 sq. ft. Use them in printed circuits for radios, amplifiers, switchboards, meters, for capacitors and couplings, for static shielding to replace foils and cans, for resistors and solder seals. Save hours of time, $$$$ of cost! For more information, send for Bulletin CP-2-1247. E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Delaware.

DU PONT ELECTROCHEMICALS

DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

▼ BREVITY—Identify by IEN-10851 if you write the maker ▼

Concentrated 1 ton wallop

for small punch press jobs

NEW BENCHMASTER MIDGET

only **$80.00**
f.o.b. Los Angeles
less Motor

Continuous heavy duty rating. 1 ton "Plus"

Free circular available — write today.

Dept. IEM

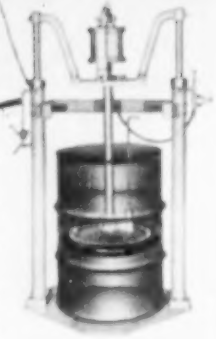
benchmaster MANUFACTURING COMPANY

WORLD'S LARGEST PRODUCER OF SMALL PUNCH PRESSES

▼ BREVITY—Identify by IEN-10852 if you write the maker ▼

FAST-THRIFTY WAY to pump the heaviest materials

VERSATAL power operated FOLLOWER PLATE PUMP



- Completely empties and cleans the sides of a 55-gallon drum.
- Stops contamination—does not allow air to reach the material.
- Prevents material from drying out or "skinning over."
- Saves important money on barrel cleaning.
- 5836 lbs. atmospheric pressure on the material, assures safe, positive prime.

Free—write now for literature giving full data. Address Alemite, Dept. B-110, 1850 Diversey Pkwy., Chicago 14, Ill.

Another Product of Stewart-Warner

ALEMITE Versatal

▼ BREVITY—Identify by IEN-10853 if you write the maker ▼

for fast, easy floor care . . .

. . . there's nothing like a

Clarke

CLARKE FLOOR MAINTAINER

Scrubs, waxes, polishes, steel wools, sands floors . . . shampoos carpets. Finger-tip safety switch. Adjustable handle. Self-lifting wheels.

CLARKE HURRIKLEEN ELECTRIC MOPPER

Instantly picks up scrub water. Enables one man to do the work of ten men with ordinary mops.

CLARKE HEAVY DUTY WET AND DRY VACUUM

Powerful suction quickly picks up water, dirt, dust. Quick draining dump valve eliminates heavy lifting.

● Write for catalog or free demonstration.

Sold & Service Branches in All Principal Cities

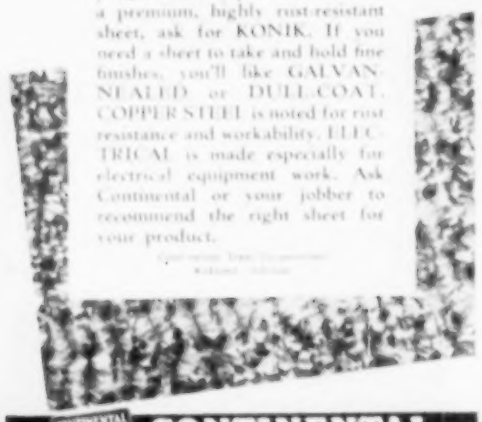
Clarke SANDING MACHINE COMPANY
2611 Clay Ave. Muskegon, Mich.

▼ BREVITY—Identify by IEN-10854 if you write the maker ▼

Product Proved..

CONTINENTAL STEEL CORP. STEEL CONTINENTAL SHEETS KOKOMO, IND.

● Continental sheets have been *proved* in many product uses. For a premium, highly rust-resistant sheet, ask for KONIK. If you need a sheet to take and hold fine finishes, you'll like GALVANNEALED or DULL-COAT. COPPER STEEL is noted for rust resistance and workability. ELECTRICAL is made especially for electrical equipment work. Ask Continental or your jobber to recommend the right sheet for your product.



CONTINENTAL STEEL CONTINENTAL STEEL CORPORATION

▼ BREVITY—Identify by IEN-10855 if you write the maker ▼

METER . . AC. volt-ammeter opens for application around conductor

Source: PYRAMID INSTRUMENT CO.
47-51 Howard St., New York 13, N. Y.

Model A-5-1 is new design in the Amprobe line of meters for voltage and current readings in live conductors. The split-core transformer opens on pressing a trigger in an inside and conductor measuring 1⅝ to 16 diameter or one of conductors measuring to ½ by 1½ in. for current readings. A selector switch is moved at the opposite to select reading and range. Scales and the knife-edge pointer operated by the 1-A-scale permanent-magnet mechanism are under a transparent plastic window is protected by visible position.

Current is read in five ranges maximum at 0½ to 150 amperes. Voltage is to 120 and 240. The housing carries a standard pin jack for the voltage measurements. Weight is 1 pound. List price is $42.25.

▼ BREVITY—Identify by IEN-10856 if you write the maker ▼

WAX . . For snow shovels, plows, prevents snow from sticking to metal

Source: SPECO INC.
7306-10 Associate Ave., Cleveland 9, Ohio

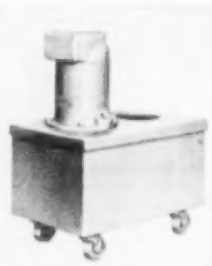
Packaged in gallons to 55 gal. containers

Silicone has been added to the company's liquid "Snow-Ring" wax for snow shovels and plows to provide a material that will dry to a hard slick surface following application by paint brush or spray gun. Drying takes place in about 20 minutes. Coverage is 250 sq. ft. by brush, 500 sq. ft. by spray. The wax also protects the metal against corrosion.

▼ BREVITY—Identify by IEN-10857 if you write the maker ▼

PUMP . . Motor driven centrifugal with tank for coolant, 15 gpm. at 5 ft.

Source: RUTHMAN MACHINERY CO.
1823 Reading Road, Cincinnati 2, Ohio



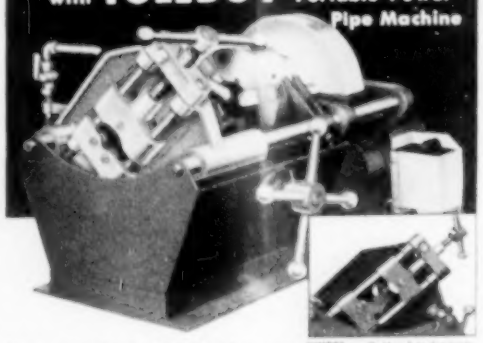
Model 6-P3 is a new pump with a 1/30-hp. ball-bearing motor for operation at 3,450 rpm. to be built into a machine or mounted on a coolant tank the company is prepared to supply. The tank can be equipped with casters for portable application. The motor can be specified for standard or current characteristics.

Three tank sizes are 4 to 32 gal. and measure 14½ by 9½ by 7½ to 30½ by 18½ by 12 inches. The casters add 2½ in. to the height. The pump motor stands 7½ in. above the tank top.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

▼ BREVITY—Identify by IEN-10858 if you write the maker ▼

NOW . . . YOUR CHOICE! *Wheel or Knife* CUT-OFF with TOLEDO 2" Portable Power Pipe Machine



Now—your choice of Wheel or Knife Cut-Off with this great TOLEDO No. [illegible] 2" Power Pipe Machine! Speeds and simplifies for cutting, threading and reaming [illegible] sizes up to and including 2", and [illegible] ½" to 1½". Threads 2" pipe in 22 seconds, cuts off in 10 seconds. Compact [illegible] high production . . . reduces time [illegible] Write for bulletin. The Toledo Pipe Threading Machine Co., Toledo, Ohio.

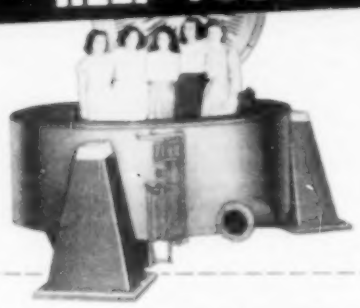
WHEEL . . . Cutter head equipped with two rollers and one cutter wheel which is self-centering, quickly adjusted, cuts off rapidly.

KNIFE . . . Four cutter knives leave a straight square end cut without burr. May be re-sharpened many times.

TOLEDO
FOR PRECISION PIPE TOOLS

▼ BREVITY—Identify by IEN-10859 if you write the maker ▼

CAN CENTRIFUGING HELP YOU?



You'd be surprised at some of the things centrifuging is doing these days . . . because modern centrifuging is versatile.

The centrifugal pictured above, for example, is the biggest ever made. It's used for impregnating and drying heavy textiles . . . and doing the job more efficiently than any other method. Every day, more processing engineers and production men are discovering that separation, extraction, dehydration, clarification, filtration and other processes can frequently be done more efficiently and economically by centrifuging.

We'll gladly tell you whether centrifuging can help you. Just send us a sample of your material for confidential analysis. There's no cost or obligation. AMERICAN TOOL AND MACHINE COMPANY, 1417 Hyde Park Ave., Boston 36, Massachusetts.

SAVE TIME, SPACE AND COSTS WITH
A.T. and M.
CENTRIFUGING

▼ BREVITY—Identify by IEN-10860 if you write the maker ▼

DOLLIES & TRUCKS

● A general purpose dolly with open frame and flush top. Light and easy to carry yet capable of handling heavy loads. Equipped with four swivel casters having 3" semi-steel or rubber tired wheels.

★ Ironbound material handling representatives are located in all important cities. These men can help you with all handling problems involving the use of standard Skids, Semi-Live Skids, Floor Trucks, Roll Handling Trucks, Dollies or specially designed adaptations to meet particular requirements.

IRONBOUND

FLO TRUK

● Popular as an all-purpose general merchandise unit. Ruggedly constructed—selected hardwood deck. Equipped with rubber tired or semi-steel wheels.

Ask for Catalog GF-7

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
50 HOFFMAN PLACE • HILLSIDE, N. J.

SKIDS • SEMI-LIVE SKIDS • DOLLIES • FLOOR TRUCKS

▼ BREVITY—Identify by IEN-10861 if you write the maker ▼

AMERICA needs continued production in every plant . . . every worker must get the most out of every hour of every working day! Why not help banish worker fatigue with abundant drinking water sanitarily provided by Halsey Taylor Coolers and Drinking Fountains? Write for latest catalog.

THE HALSEY W. TAYLOR CO., Warren, Ohio

HALSEY TAYLOR
FOUNTAINS AND COOLERS

▼ BREVITY—Identify by IEN-10862 if you write the maker ▼

Are you willing to gamble a 3¢ stamp

on lower unit costs for your products?

JUST an ordinary 3c stamp may open the way to substantial savings for you—if you use it to send us an outline of your spring requirements. As they often have in the past, our skilled springmakers and practical, experienced engineers may be able to show you how you can reduce your spring costs and perhaps even make it possible to simplify assembly of your product. Accurate's unexcelled facilities and spring-making "know-how" are your best bet for the right spring for your job at the lowest possible overall cost. And we're prepared to show you the "proof of the pudding." The sooner you "risk" that 3c stamp the sooner you'll be in line for the "pay-off." Why not do it TODAY?

ACCURATE SPRING MFG. CO.

3807 W. Lake Street — Chicago 24, Illinois

Accurate Spring — Springs — Wire Forms • Stampings

▼ BREVITY—Identify by IEN-10863 if you write the maker ▼

B & W Integral-Furnace Design, Type FM Shop-Assembled—Ready to Use

NEW FEATURES . . . now, for the first time, inherent advantages of "packaged" steam are combined with traditional economies of popular B&W Integral-Furnace boiler design in a self-contained water-tube unit. New Type FM unit saves erection time and cost . . . saves space . . . requires no special foundation . . . handles quick load changes efficiently . . . fast steaming with economy . . . easily inspected, cleaned, and maintained . . . includes simple, automatic operation . . . saves fuel . . . burns oil or gas . . . suitable for indoor or outdoor installation.

NEW BULLETIN . . . Many cost-saving features of new Type FM standardized units in steam capacities from 5,000 to 35,000 lb. per hr. are described and illustrated in Bulletin G-72. Call or write for a copy. The Babcock & Wilcox Company, 85 Liberty St., New York 6, N. Y.

Helpful Industry Fact Sheets Cost Zero 1957

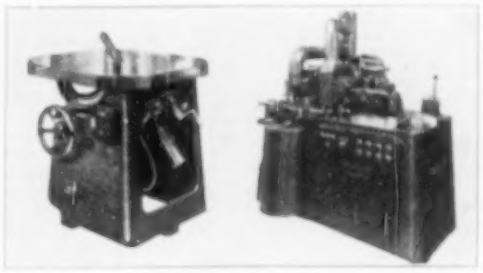
BABCOCK & WILCOX

G-314

▼ BREVITY—Identify by IEN-10865 if you write the maker ▼

WOOD WORKING . . Sander and moulder, motor drive for production application

Source: OLIVER MACHINERY CO.
1022-27 Clancy Ave. N. E., Grand Rapids 5, Mich.



No. 381D is a new spindle sander in the company's line of wood-working equipment. It mounts a 1 hp. motor to drive a 1½ spindle that rotates and also oscillates through 1½ inches. Standard speed is 1,800 rpm. with oscillation at 50 strokes per minute. The spindle tilts to 42 deg. toward the operator and to 5 deg. away from him. It takes interchangeable 2, 4 and 6 in. diameter drums each 9 in. in length. Three inches of vertical adjustment of the spindle provides for full use of the sanding area.

No. 202V is a new 2 hp. 4-in. moulder with feed capacity between 20 and 80 fpm. The machine mounts 1½ in. spindles for top, bottom and side heads. Spindle speeds are 3,000, 5,400 or 7,200 rpm. as specified. Each head employs its own motor. In addition a feed motor operates at 1,800 rpm. in connection with a Reeves pulley for variable feed in a 4 to 1 adjustment ratio. Feed drive on the work is through chains above and below, both pulling the stock to the heads.

▼ BREVITY—Identify by IEN-10866 if you write the maker ▼

TESTING . . Viscosity meter reads direct in centipoise units

Source: FISHER SCIENTIFIC CO.
175-19 Forbes St., Pittsburgh 19, Pa.

Third bobbin has been made available for use in the company's Electroviscometer to span non-Newtonian with the two previously described IEN-10866. The new bobbin extends the previous maximum reading from 5,000 to 50,000 centipoise. Meter readings are multiplied by 100 when the new bobbin is in place.

A motor driven cup in the assembly holds a sample of liquid in a constant-temperature bath and rotates it to act against the bobbing which extends down into it from the instrument head. Shearing force in the liquid tends to rotate the bobbin and its suspension. This turning effort is resisted by adjusting magnetic effort until the effort and the rotating force are brought into balance. The reading is taken at this point.

List prices are $525 for the instrument with two bobbins for maximum readings of 500 and 5,000 centipoises and for operation on 110 volt 60-cycle ac. The new bobbin for readings to 50,000 centipoises adds $18.75.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN-10867 if you write the maker ▼

YOUR EASIEST WAY TO LOW-COST OPERATION

When centrifugal pumps are proportioned in size to their duties, costs are kept to a minimum. Eastern Industrial Pumps do an efficient job. Weight, space, power, and costs are reduced. Heavy-duty application with trouble-free performance is yours with minimum operating costs.

FREE Eastern Centrifugal Pump Catalog 100. 12-page, 2-color catalog offers engineering data, charts and illustrations, packed with helpful suggestions.

Write Dept. A2 today.

Eastern INDUSTRIES, INC.
296 ELM ST., NEW HAVEN, CONN.

▼ BREVITY—Identify by IEN-10868 if you write the maker ▼

Over Half of America's Top Companies Use "Speed Sweep"

THE BRUSH WITH THE STEEL BACK

BECAUSE it sweeps faster and cleaner, and outlasts ordinary brushes 3 to 1, Speed Sweep has become the No. 1 sweeping tool of American industry—used by over 50,000 firms. Whether you use a few or a lot of brushes, you'll find it pays to switch to Speed Sweep.

Write for styles, sizes and prices.

MILWAUKEE DUSTLESS BRUSH CO.
MILWAUKEE 3, WISCONSIN

▼ BREVITY—Identify by IEN-10869 if you write the maker ▼

with GENERAL PLATE Precious and Composite Metals and Products

The versatility of General Plate Laminated Metals, Trefoil Thermostat Metals, Contact Materials and bimetal assemblies enables us to simplify designs, reduce the amount of high cost metals . . . maintain previous metal performance.

It pays to look metal combinations. General Plate saves you dollars by eliminating a bigger share of the precious metal. Bonded base metal laminates provide physical properties not found in single base metals.

Write for complete information about General Plate Products and bimetal assemblies. Our engineers will help you with your problems.

General Plate Products Include:

• Trefoil Thermostat Metals • Precious to base metal combinations • Base metal combinations • Reusable bonded contacts • Solid contacts • Laminated contacts, buttons, rivets • Platinum fabrication — rolling • Age hardening Alloy 720.

GENERAL PLATE
Division of Metals and Controls Corporation
111 FOREST STREET, ATTLEBORO, MASS.

▼ BREVITY—Identify by IEN-10870 if you write the maker ▼

That's what you need—greater metal cut-off capacity—to help increase production, a big advantage of the

JOHNSON MODEL J BAND SAW

It cuts 10" rounds, 18" flats. It's sturdy, fast, has extra rigidity that permits higher speed operation and extra accuracy. To decrease your cost of cut-off work, insist on a Johnson Band Saw.

Also in smaller, speedier, lighter Portable MODEL S Saw, with all the advantages of the larger model. Capacity 5" rounds, 10" flats.

Write for CATALOG!

Model J

JOHNSON MANUFACTURING CORP.
ALBION, MICHIGAN

▼ BRIEFITS—Identify by IEN-10871 if you write the maker ▼

PRIMING and NON-PRIMING CENTRIFUGAL ACID PUMPS

Capacities 10 G.P.M. and up. Materials available to resist corrosion by nearly all acids and caustics. Handle air or vapor with liquid when necessary, also small solids in suspension. Simple, dependable. Write for details, stating your problem: kind of liquid, temperatures, capacity, pressure and suction lift.

THE LABOUR COMPANY, Inc.
1873 Sterling Avenue Elkhart, Indiana, U. S. A.

▼ BRIEFITS—Identify by IEN-10872 if you write the maker ▼

FAIRBANKS-MORSE INDUSTRIAL SUMP PUMPS

Handy, dependable. Save thousands of dollars by protecting machinery, merchandise and buildings from damage by excessive seepage and flash floods. Ideal for use in boiler and elevator pits, ash dumps, machinery base pits, storerooms, and many other places.

Fairbanks-Morse sump pumps start when water reaches pumping level . . . shut off when danger is passed. Can be left unattended. Made for 2-foot sump pits. Extension columns available when settings require them. For complete details of sizes, construction features, pumping capacities and prices, write Fairbanks, Morse & Co., Chicago 5, Illinois.

FAIRBANKS-MORSE,
a name worth remembering

DIESEL LOCOMOTIVES AND ENGINES · ELECTRICAL MACHINERY · PUMPS · SCALES
HOME WATER SERVICE AND HEATING EQUIPMENT · RAIL CARS · FARM MACHINERY

▼ BRIEFITS—Identify by IEN-10873 if you write the maker ▼

FAST SERVICE on SPECIAL HOISTS

Ideal for handling hot materials from a safe distance . . . for work where surface must be protected against scratching by the hand chain . . . for large flat or bulky loads. Sizes available ¼ to 4 tons. Any standard Chester Spur-Geared hoist can be readily converted to this type by adding the extended Hand Wheel device.

Choose one geared for correct tackle or of type of special with . . . send your specifications. Catalog on request.

THE NATIONAL SCREW & MFG. CO.
Chester Hoist Div. · Lisbon, Ohio

▼ BRIEFITS—Identify by IEN-10874 if you write the maker ▼

PACKAGING . . Automatic machine feeds brine, syrup into packed jars

Source: MRM CO.
189-93 Berry St., Brooklyn 11, N. Y.

Food products requiring the addition of brine or syrup are filled into containers and positioned on a motor-driven chain-belt conveyor. The conveyor moves them under a set of spouts from which brine or syrup or other liquid is delivered to complete the filling operation. The machine is available in 12 to 40-spout assemblies. The 12-spout unit operates at the rate of 70 containers per minute. Designation is Rotary Brine Filler.

▼ BRIEFITS—Identify by IEN-10875 if you write the maker ▼

ADHESIVE . . Synthetic emulsion for wood is shock and moisture proof

Source: THOMAS W. DUNN CO.
Pearl & Dover Sts., New York 7, N. Y.

Has high strength in shear loading

Wood Hesive is a new water-dispersible synthetic resin for application by brush or conventional spreading equipment on wood parts. The material will not wash. It is supplied in desired viscosity for given work. The dry film is resistant to attack by moisture, bacteria, fungus. It is relatively non-toxic and non-inflammable.

Clamping interval is from ½ to 2 hr. depending on the wood. Clamping temperature should be above 70 deg. F. Packaging is in 1 to 50-gal. drums at a cost of 20 cents to 25 cents per pound in these and quantities.

▼ BRIEFITS—Identify by IEN-10876 if you write the maker ▼

SHEARING . . Alligator type machine mounts 12 in. reversible cutting blades

Source: ALAMO IRON WORKS
120 Hoefgen St., San Antonio 6, Texas

Self-contained [illegible] Model [illegible] has been added to the company's line for [illegible]. Capacity [illegible] square [illegible] thick to 1½ in. mild steel plate to ½ in. 70 strokes per min. with optional stroke by internal combustion engine or motor. Assembly includes a roller [illegible] for the work. Motor rating is 3 to 5 hp. and floor space with the motor is about 20 by 96 in. in overall area.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

▼ BRIEFITS—Identify by IEN-10877 if you write the maker ▼

O-B No. 20 Line Gate Valve with non-rising stem. Allows unobstructed flow through pipe in open position. O-B Flexible disc provides positive straight shutoff even on uneven seat.

O-B gate valves unscrew at the stuffing box to allow easy removal of stem, stuffing box, and packing nut in one piece. With these parts removed, the valve body with disc inside and center piece can be easily threaded to the pipe ends—even in cramped quarters. Available at your Ohio Brass distributor.

OHIO BRASS COMPANY MANSFIELD, OHIO

Ohio Brass VALVES

▼ BRIEFITS—Identify by IEN-10878 if you write the maker ▼

USE STAINLESS STEEL FLOATS

. . . IN THE PRODUCTS YOU BUILD

Manufacturers equip your products with the finest floats available—*Stainless Steel Floats* from Chicago Float Works. Your product can have no better assurance of long trouble-free float performance. You get all of the plus values of *Stainless Steel* along with Chicago Float Work's more than thirty years of specialized experience in engineering and building floats for industry.

. . . . check these features

CORROSION RESISTANCE. Stainless Steel stands up better under severe exposure to many different kinds of corrosive fluids.

EXTREME STRENGTH. Will withstand pressures up 1000 lbs. Temperatures to 800°F.

LIGHTER. Less weight affords more buoyancy making for more positive float action.

COMPLETE LINE. Diameters 3 to 30 in. Special sizes to order—standard or special float connections. Write for catalog giving sizes, shapes, good connections and complete engineering data.

CHICAGO FLOAT WORKS, INC.
2326 S. Western Ave., Chicago 8, Illinois

▼ BRIEFITS—Identify by IEN-10879 if you write the maker ▼

PANGBORN Hydro-Finish

gives you . . .

- **Better Paint Jobs**
- **Better Electroplating**
- **Better Finishing**
- **Better Products**

Slash finishing costs to rock-bottom in your plant! Amazing Pangborn Hydro-Finish cleans far faster than hand methods, yet holds tolerances to .0001"! Hydro-Finish cannot harm your product's sharp edges or corners, forms a perfect "tooth" for non-peel electroplating, finishing or painting.

Hydro-Finish makes threaded pieces turn easily . . . forms millions of little "oil pockets" in lubricated pieces to prolong product life. Fatigue failure is reduced because Hydro-Finish removes or blends grinding lines, etc!

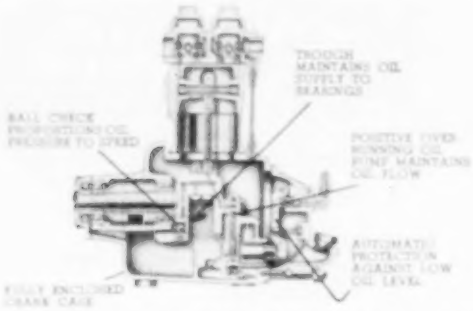
Hydro-Finish is also valuable in your tool room: cleans production tools and dies in a fraction of the time needed for expensive hand cleaning.

WRITE TODAY for Bulletin 1400-A. Contains full facts on Pangborn Hydro-Finish and Pangbornite Abrasive. For your free copy, address: PANGBORN CORPORATION, 2800 Pangborn Blvd., Hagerstown, Maryland.

Pangborn

BLAST CLEANS CHEAPER with the right equipment for every job

▼ BRIEFIT—Identify by IEN-10881 if you write the maker ▼



Points of Protection on the
Westinghouse Air Brake Company
"Y" COMPRESSOR

The picture gives the "inside story" of the engineered features of the "Y". High dependability, low maintenance. Ask for Bulletin IDC 9302-3.

Westinghouse Air Brake Co.
Industrial Division Wilmerding, Pa.

DISTRIBUTORS THROUGHOUT THE UNITED STATES
CONSULT YOUR CLASSIFIED DIRECTORY

▼ BRIEFIT—Identify by IEN-10882 if you write the maker ▼

SPRAY PAINT RIGHT OUT OF ORIGINAL CONTAINERS

...and save money 5 ways!

1. No messy, time-wasting transfer to pressure pot.
2. No spilled paint to clean up.
3. No shut-downs for refilling.
4. No pressure pots to clean.
5. Less pressure, less over-spray.

● Graco Paintmaster pumps paint directly from original containers. Built in agitator keeps paint in perfect suspension. Works by entirely new principle — using rotary gear pump, not air pressure. No aeration of paint. Low pressure reduces overspray resulting in big savings of paint. Two sizes to fit over 5-gal. and 55-gal. containers. Write today for free literature.

GRAY COMPANY, INC.
76 Graco Square, Minneapolis, Minn.

GRACO
Paintmaster

▼ BRIEFIT—Identify by IEN-10883 if you write the maker ▼

DETECTO SCALES

There's a precision-accurate Detecto Scale for your specific weighing and counting need. The Detecto helps increase production, yet assures you maximum accuracy by making slightest weight discrepancies immediately visible.

DETECTO POST-O-METER

Another Detecto Scale that protects your profits. With the Detecto Post-O-Meter, you get new precision to the penny magnified figures. Thermostatic spring compensates for temperature changes.

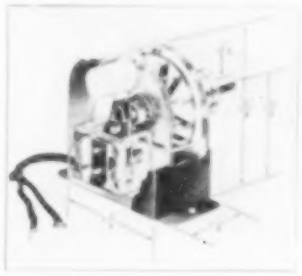
Write for Literature

DETECTO · SCALES · INC.
MAKERS OF FINE SCALES SINCE 1900
540NE PARK AVE. • BROOKLYN 5, N. Y.
SCALE ENGINEERS IN ALL PRINCIPAL CITIES

▼ BRIEFIT—Identify by IEN-10884 if you write the maker ▼

SWITCH . . Mercury design with hydraulic magnetic actuation

Source: WALWORTH CONTROLS CO
800 New Britain Ave., Putnam, Conn.



Winterburn Model 1020 is one in a new line of mercury switches in which one or more mercury contacts rating 3 amps at 110 volt. Designed to be actuated by a permanent magnet. This accuracy is required on a flap that is related on its shaft which is in logical hydraulic cylinder is located by external means or in connection to a pointing shaft.

Model 1020 makes contact when a shaft is stopped and opens the contact when the shaft is rotating. Other designs in the line open and close contacts covers so start and stop of rotation and on each revolution as to counting data. Construction includes a hardening shaft, gangless cover bearing, stainless steel cover, nickel-plated diameter are 2½ to 2½ in. [illegible]

▼ BRIEFIT—Identify by IEN-10885 if you write the maker ▼

FOLDING . . Motor driven machine for two parallel folds in paper sheet

Source: PITNEY-BOWES INC.
761-S Pacific St., Stamford, Conn.

Model FM is a new machine only which an operator feeds flat sheets of paper to be folded in any of eight ways. Edges are scored for an a flat folding. The machine two parallel folds and will feed and stack at the rate of 10000 sheets per hour based on a sheet measuring about 8½ by 11 inches. Overall dimensions are 30 in. long, 16 in. wide, 20½ inches. The machine will take paper stock ranging from 16 to 24 lb. bond and in sizes ranging from 3 by 5½ to 11 to 24 inches.

▼ BRIEFIT—Identify by IEN-10886 if you write the maker ▼

PROTECTING . . Instruction manual on what to do in case of atomic bomb explosion

Source: [illegible]

List price is $1 for [illegible] page book, "Atomic Attack—A Manual for Survival", published under the auspices of Conn. [illegible] Engineering Corp. Inc. It tells how to prepare for the [illegible] of atomic bomb explosion, what to do when it occurs, and the reasons for the suggested procedures.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

▼ BRIEFIT—Identify by IEN-10887 if you write the maker ▼

REDUCE YOUR FASTENING COSTS with SEMS by SHAKEPROOF

WRITE FOR *Free* TEST KIT

To make tests when fastening operations fail, extra and more dependable specify SEMS by SHAKEPROOF. Specially designed Shakeproof Lock Washers are pre-assembled to screws, screws to provide easy installation. Provide greater locking power, greater load capacity, [illegible] and eliminate the possibility of washer coming in extra advantages.

ask for Kit No. 23 →

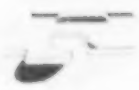
Write today!

SHAKEPROOF inc.
Fastening Headquarters
DIVISION OF ILLINOIS TOOL WORKS
2501 North Keeler Avenue, Chicago 39, Illinois
In Canada: Canada Illinois Tools, Ltd., Toronto, Ontario

▼ BRIEFIT—Identify by IEN-10888 if you write the maker ▼

NEW GE LEVELOCK SWITCH BOX

Easy Leveling



Locking Side Plates

Here's the switch box you'll want to use! A switch box that simplifies leveling . . . cannot fall apart . . . gangs easily specific installations on every job — the new General Electric Levelock switch box.

New side-plate wedging action locks side plates securely in position. Box sides cannot be dislodged by hammer blows.

Four contact points — instead of the usual three — eliminate rocking or tilting of box during installation.

In addition to the side plate nail holes for gang mounting, another set of holes through both side plates allows end through mounting, direct to studding. Merely drive these two 10d nails and you're ready to wire.

Added features are special side pry outs to provide for use of the ordinary installation—even single-action case — heavy bridge action bars for increased support.

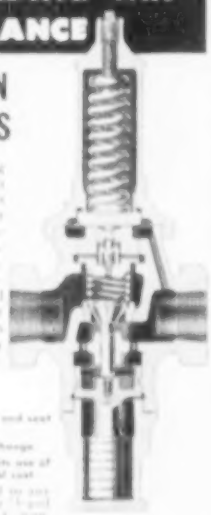
— for information, write Section 22110, Construction Materials Department, General Electric Company, Bridgeport 2, Connecticut

GENERAL ELECTRIC

▼ BRIEFIT—Identify by IEN-10889 if you write the maker ▼

YOU PAY NO WITHHOLDING TAX ON PERFORMANCE

with MASONEILAN REDUCING VALVES



Masoneilan No. 11 Reducing Valves give you accurate steam pressure regulation, regardless of normal pressure fluctuations or changes in demand. Their performance cuts operating expenses by reducing waste. Their rugged construction assures long operating life and minimizes maintenance. Their on-the-job records in countless plants throughout the country show year after year of continuous service.

CHECK THESE FEATURES—

- Stainless steel main valve, auxiliary valve and seat rings are standard — at no extra cost
- Wide range of adjustment without spring change
- Large capacity due to pilot operation, permits use of smaller size regulators — saves in original cost

Initial pressures up to 250 lbs. reduced to any [illegible]

MASON-NEILAN REGULATOR COMPANY
1188 ADAMS STREET
BOSTON 24, MASSACHUSETTS, U. S. A.

▼ BRIEFIT—Identify by IEN-10890 if you write the maker ▼

buell KNOWS DUST RECOVERY

Buell Low Temperature Cyclone

Buell SP Electric Precipitator

Combination Cyclone Precipitator Unit

W[illegible] industrial engineers discuss valuable dust recovery, Buell is the big name mentioned. For Buell offers knowledge and capabilities in dust recovery second to none. Only Buell Precipitator removes ultra-fine dust with "Steel-Ring" dust fall, continuous cycle, tapping that means "custom work off-line." Buell large diameter cyclones do not plug, require most to be maintenance. Complete details on both types of equipment are available. Buell Engineering Co., Inc., Suite 1818, 70 Pine St., New York 5, N. Y.

buell
Engineered Efficiency in Dust Recovery

▼ BREVITY—Identify by IEN-10891 if you write the maker ▼

A job that took 26 MAN HOURS is now done in 3 MAN HOURS with a DRACCO Pneumatic Conveyor

MATERIAL RECEIVED IN BULK INSTEAD OF BAGS SAVED $150.00 EACH WEEK

DRACCO Pneumatic Conveyors save money in MANY WAYS. It formerly took 26 man hours to unload a car—with a DRACCO Pneumatic Conveyor it is now done in 3 man hours. $150.00 each week is saved by purchasing material in bulk. A dangerous dust hazard was also eliminated, and the plant is much cleaner now. This installation paid for itself within 2 years. If you handle chemicals, grains, or granular materials, reduce the cost to a minimum with DRACCO Pneumatic Conveyors. DRACCO Engineers have reduced handling costs for over 15 years—why not consult them?

For Further Information Write

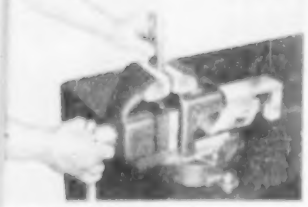
DRACCO CORPORATION

4047 E. 116th Street, Cleveland 5, Ohio

PNEUMATIC CONVEYORS • DUST COLLECTORS

▼ BREVITY—Identify by IEN-10892 if you write the maker ▼

NEW! DODGE **SLIDE-SET VISE**



● Entirely new in principle, with patented fast slide action that speeds work, reduces operator fatigue, saves wear on parts. All the power of a heavy conventional vise (weighs 100 pounds). Jaw slides in "neutral" before you lock it by turning handle in conventional way. No bulkiness "spinning" in and out. No—Pinch handle protects against blood blisters. Every Dodge Slide-Set gives dividends in greater efficiency and production. *Write now for free Bulletin.*

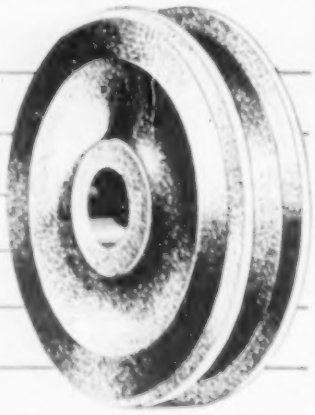
Dodge Manufacturing Corporation, 600 Union St., Mishawaka, Indiana

DODGE

of Mishawaka, Ind.

▼ BREVITY—Identify by IEN-10893 if you write the maker ▼

WROUGHT STEEL CRANE WHEELS by STANDARD



Built for extra service by a pioneer producer of railroad wheels, under continuous quality control from melting of metal to final finishing. Rugged, tough, strong, durable. Available in a range of sizes. Prices on request.

BALDWIN

STANDARD STEEL WORKS

The Baldwin Locomotive Works
Standard Steel Works Division
Burnham, Pennsylvania

▼ BREVITY—Identify by IEN-10894 if you write the maker ▼

CONVEYING . . Live roll design handles distributed load to two ton

Source: RAPIDS-STANDARD CO.
242 Rapistan Bldg., Grand Rapids 2, Mich.

Power Roll is a new live-roll conveyor in which the rolls ride on and are rotated by a canvas belt. The belt, in turn, is supported on a lower level of adjustable pressure rolls. The belt is driven by a lugged motor-operated pulley in the power roll. Shafts are mounted in sealed self-aligning ball bearings.

The conveyor is available in lengths to 150 ft. made up of the power and tail ends with intermediate sections. It is built in four roll widths between 15 and 24 inches. There is provision for take-up on the 9-in. driving belt.

▼ BREVITY—Identify by IEN-10895 if you write the maker ▼

CORK SHEET . . To five foot width for use in facing bulletin boards

Source: ARMSTRONG CORK CO.
1012 State St., Lancaster, Pa.

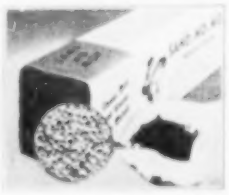
Surface requires no refinishing

Wilbur green is a new cork now available to the company's cork sheet for use in facing bulletin boards. The material is supplied in rolls to 5 ft. in width and 60 ft. in length. The soft surface takes tacks and permits their ready removal without marring. The grain structure springs back in place when a tack has been pulled out. The sheet has a pebble-grain back to take the adhesive employed to cement it in place.

▼ BREVITY—Identify by IEN-10896 if you write the maker ▼

CLEANING . . Abrasive block for use by hand on metal and wood

Source: CARTER PRODUCTS CO.
P. O. Box 1924-A, Columbus 16, Ohio



Sand No More is a new block made of a synthetic mineral containing a great many very small bubble-like cells. These on the surface become broken by rubbing action to present sharp scraping edges. As these edges are dulled, they break away to present new ones. The block measures 2 by 2 by 3 inches. It lists at 25 cents.

Applications include removal of paint, varnish, corrosion, aged and burned grease, smoothing wood surfaces, feathering plaster edges. The block is free from tendency to load.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN-10897 if you write the maker ▼

Vapor-Clarkson STEAM CLEANERS

Sixty gallons of vaporized cleaning solution per hour at pressure up to 200 lbs.

Plenty of hot solution to operate two steam guns at the same time, with ample reserve power for all cleaning jobs. No idle time lost in waiting. The Model 4942 Vapor Steam Cleaner generates 100 lbs. of steam pressure in one minute from a *cold start*. Scientifically engineered, Model 4942 is not low in initial cost, but does the work 3 to 4 times faster.

Sold only in New York · St. Louis · Chicago · Cleveland · St. Louis · Denver · Washington · Philadelphia · San Francisco · Portland, Ore. · Jacksonville, Florida · Richmond, Virginia · Houston, Texas · Montreal

PORTABLE Take it anywhere. For cleaning and stripping jobs—cleaning and rinsing.
MAXIMUM FUEL ECONOMY Does demands full on position or intermittent.
EFFICIENT OPERATION Can be used continuously this year, day for day, regularly year.
FULLY AUTOMATIC Can be operated by anyone in your shop or plant by turning one switch and throttle for steam pressure required.

Made by the manufacturers of the famous VAPOR CLARKSON STEAM GENERATORS used on virtually every Diesel passenger locomotive on this continent.

Write for Bulletin 512

VAPOR HEATING CORPORATION
80 East Jackson Blvd., Chicago 4, Illinois

▼ BREVITY—Identify by IEN-10898 if you write the maker ▼

Varglas SILICONE

Electrical Insulating Tubing and Sleeving for wide temperature ranges

Between 85° F below Zero and 500° F above Zero

Owes its amazing temperature range to a combination of Varglas and Silicone. Resists moisture and oil—flame resistant and self-extinguishing—*Strongest of all accepted insulating materials.* Pioneered by Varflex.

TEST VARGLAS SILICONE IN YOUR PLANT.

Write today for your free folder of working samples.

NEW SLEEVING AND TUBING LINE
Low cost VARFLO

Varflex CORPORATION
306 N. Jay St.
Rome, N. Y.

▼ BREVITY—Identify by IEN-10899 if you write the maker ▼

"TIME WELL SPENT"

—you'll say

PLAN NOW TO ATTEND THE . . .

19th NATIONAL POWER SHOW
NATIONAL EXPOSITION OF POWER & MECHANICAL ENGINEERING
GRAND CENTRAL PALACE, N.Y.
NOV. 27 to DEC. 2

New Ideas! Over 300 manufacturers showing, demonstrating, and explaining latest techniques, equipment, and materials for more efficient power production and utilization, materials handling, and plant services . . . newest and best ways to expand and modernize for greater operating and maintenance economy.

Ask the Experts! An unequaled opportunity to get first-hand technical advice on adapting new contrasting equipment, supplies and methods to your present operation and future plans. In no other way can you get so much help on your power problems in so little time.

Make it a Must for New Ideas—Bring Your Associates
Auspices A.S.M.E. in conjunction with Annual Meeting
Management International Exposition Co.

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SPECIFICATIONS
ITEM QUANTITY DESCRIPTION

Fred — Get these from Anti-Corrosive — the Co that has more than 7000 varieties and sizes of Stainless Steel fastenings

IN STOCK!

FREE! Send for Folder 50M for full information

Anti-Corrosive Metal Products Co., Inc. SINCE 1927

Manufacturers of STAINLESS STEEL FASTENINGS

CASTLETON-ON-HUDSON, NEW YORK

▼ BREEZITS—directly to IEN - 10901 if you write the maker ▼

ERTEL STAINLESS STEEL SELF-PRIMING PUMP

For pumping corrosive liquids, chemicals, drugs, cosmetics, foods, syrups, wines, whiskeys, pharmaceuticals, vinegar, etc.

MODEL ESP

★ Capacities 3, 5, 10, 20 and 40 gpm. Perfect alignment of the minimum of moving parts. Has manual by-pass control valve to carry sign-line pressure and flow rate. Available in illustrated or as complete assembly direct from or bare motor. Please ask for Pump Bulletin 8-11.

BREEZITS SERVICE: If you write to a maker of low-cost valve, please, the expression and a return postcard to 342 is using our Liquid Handling problem.

ERTEL ENGINEERING CORPORATION
KINGSTON NEW YORK
Representatives in Principal Cities

MANUFACTURERS OF HIGH GRADE ERTEL ASBESTOS FILTER SHEETS
ASBESTOS SHEET FILTERS • CYLINDER TYPE DISC FILTERS
PYROGEN FILTERS • VACUUM BOTTLE FILLERS • MIXERS • CAPPERS
CENTRIFUGAL AND SELF-PRIMING STAINLESS STEEL PUMPS

▼ BREEZITS—directly to IEN - 10902 if you write the maker ▼

Here's the Answer to BULK MATERIAL HANDLING PROBLEMS

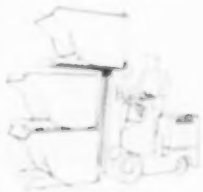
Phillips 'Skid-Dump"

Bulk materials of all kinds are handled with maximum efficiency at minimum cost . . . with the Model F-1 "Skid-Dump". Used with pallet or fork lift truck, it automatically dumps and returns to original position. Smooth, rolled edges of 3/16" steel plate, welded undercarriage provide safety, long-life, strength and durability. Capacity—1 cu. yd.

Write for Bulletin E-15

Handling materials with fork lift truck

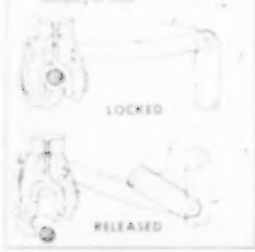
Automatically dumps material, returns unit back to original position



Extra safety chains adapts to fall

New Safety Lock*

Provides maximum safety for operators against accidental dumping of load.



*Pat. App. for

MANUFACTURERS SINCE 1911 **PHILLIPS** PITTSBURGH PA.
"THE MAN WHO SOLVES MATERIAL HANDLING PROBLEMS"

MATERIALS HANDLING EQUIPMENT
2300 JANE STREET · PITTSBURGH 3, PA.

▼ BREEZITS—directly to IEN - 10904 if you write the maker ▼

TRUCK . . Power lift fork design, battery powered, 1/2, 3/4 and 1 ton

Source: LEWIS-SHEPARD PRODUCTS INC.
261 Walnut St., Watertown 72, Mass.

Spacemaster trade names new line of motor-driven, power-lift fork trucks in which three ratings are ½, ¾ and 1 ton. Each is available with forks measuring 30, 36 or 42 in. in length for loads to 32, 40 and 48 inches. Three standard lift heights are 82, 106 and 130 inches. 71 and 83 inches. Lift. Collapsed heights over the uprights are 30, speed is 8 to 12 fpm. loaded. Lowering is at 25 fpm. either loaded or empty. Two travel speeds are maximum at 2.3 mph. loaded and 2.5 mph. empty.

Drive motor is 3/4 hp. single rear wheel, which also is employed to steer the truck. Operating with a 40-in. load the truck will turn in a 90½ in. arc. The uprights tilt 30 deg. to the rear and 2 deg. to the front by power. These movements with travel and raise and lower are fast controlled. The truck measures 56½ in. in length without the forks. It is 32 to 40 in. in width in the various sizes. Model JCTT is the designation. Weight without the battery ranges from 2,420 to 3,130 pounds.

▼ BREEZITS—directly to IEN - 10905 if you write the maker ▼

WRENCH . . Pneumatic impact tool for nut driving to 3/8 and to 3/4 in.

Source: INGERSOLL-RAND CO.
746 Morris Ave., Phillipsburg, N. J.

Two new tools have been added to the company's pneumatic design, of the reversible impact tool, in which the hammer blow strikes a maximum of 1200 foot pounds to tighten a bolt in place or to break it loose. Both are driven by vane-type air motors, are held in pistol-grip handles, are reversed by turning a knob on the rear of the housing.

Size 510 rates to ⅝ in. nuts, weighs 11½ lb., measures about 11 in. in length. It is a new addition to the line. Size 504 is an improved design of an original model to provide increased power and quicker action than the original unit possessed. This tool can be employed for drilling, reaming, tapping, screw driving, hole sizing, masonry drilling, wire brushing, broken stud and screw removal as well as for bolt setting. Built-in lubrication, and air strainers are standard construction.

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 59

▼ BREEZITS—directly to IEN - 10906 if you write the maker ▼

with
di-acro PRECISION MACHINES

Eliminate-free — speed production — in both your experimental and quantity job duplicating operations. Do specialty work variety of both simple and intricate parts can be produced made by "Die-Less Duplicating" with the wonderful or inexpensive application of Di-Acro Precision Machines are equipped at right. Di-Acro Machines are offered in a total of six types and 3 different sizes, including two new models a power Bender Shear and a Portable Bender.

SEND FOR 40 PAGE CATALOG
ENGINEERS—DESIGNERS—PRODUCTION MEN should get here this informative catalog which contains technical data covering Di-Acro Machines and a list of "Die-Less Duplicating" Engineering Service. Let us help you design and produce your parts. WRITE FOR YOUR COPY TODAY.

O'NEIL-IRWIN MFG. CO.
318 8th Avenue, LAKE CITY, MINN.

▼ BREEZITS—directly to IEN - 10907 if you write the maker ▼

Largest dental equipment company makes all castings with DETROIT ROCKING ELECTRIC FURNACE melts

S. S. White Dental Manufacturing Company, Staten Island, makes everything of dental needs. A great many castings go into their chairs, tables, control and operating equipment. All metal used in these precise castings is melted in Detroit Rocking Electric Furnaces.

READ THE ADVANTAGES

Better control of analysis. Smoother surface finish. Cleaner operation. Savings in floor space. Faster melts, higher usable yields, fewer rejects.

Get the facts on Detroit Rocking Electric Furnace operation for your foundry! WRITE TODAY!

DETROIT ELECTRIC FURNACE DIVISION
KUHLMAN ELECTRIC COMPANY
1050 26th St. • BAY CITY, MICHIGAN

Foreign Representatives: In BRAZIL—Equipamentos Industriais "Eisa" Ltd., Sao Paulo; CHILE, ARGENTINA, PERU and VENEZUELA—M. Cunningham, 150 Broadway, New York 7, N. Y.; MEXICO, Cuauc. S. de R. L., Alvaro 32, Tacuba, D. F., Mexico City, D. F.

▼ BREEZITS—directly to IEN - 10908 if you write the maker ▼

Here's why Millers Falls METAL-CUTTING BANDS give you HIGHER PERFORMANCE . . . LOWER CUTTING COSTS!

1 PART OF THE WORLD'S BROADEST AND MOST HIGHLY DEVELOPED LINE OF METAL-CUTTING SAWS. Millers Falls bands bring you the benefits of accompanying research for band design . . . better cutting designs . . . better heat treating methods.

2 A BLADE THAT'S RIGHT FOR EVERY JOB. Millers Falls Bands with correct pitch, set, material, metal and machine strength, speed and feed, provide the right combination for high speed cutting as well and dependable.

3 IN COILS OR PRE-WELDED TO FIT EVERY MACHINE. Millers Falls Bands are shipped in coils and are welded ready to use. Coils can be conveniently stacked in sizes of 100 ft. and up.

4 INDIVIDUALLY BOXED FOR PROTECTION AND EASY HANDLING. Each Millers Falls band saw blade is too packed in a sturdy waste carton, fully protected against kinking and rust. Clearly marked for quick accurate identification.

Write for full details.

MILLERS FALLS TOOLS
SINCE 1868

MILLERS FALLS COMPANY, Dept. P, GREENFIELD, MASS.

▼ BREEZITS—directly to IEN - 10909 if you write the maker ▼

EXCLUSIVE "Auto-grip" AUTOMATIC CHUCK

View at left shows the No. 302 "Pipe Master" equipped with the new "AUTO-GRIP" automatic chuck

"AUTO-GRIP" takes over all the muscle work of chucking pipe. The operator spins the handwheel until the chuck jaws grip the pipe. Then he starts the machine. The chuck's jaws take hold instantly.

The TOUGHER the pull—the TIGHTER the grip. It's all grip and no slip with "AUTO-GRIP".

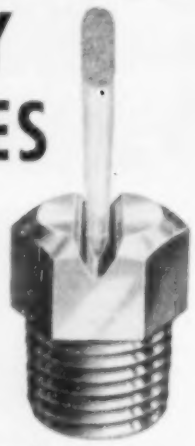
This EXCLUSIVE Oster feature is now standard equipment on all Oster 2" pipe machines that revolve the work. To-making speeds of these machines PLUS the new, automatic chucking speed of the AUTO-GRIP reduce pipe threading costs to new lows with machines of this class. Write for complete details NOW!

OSTER

THE OSTER MANUFACTURING CO.
3255 EAST 61ST STREET
CLEVELAND 3, OHIO, U. S. A.

▼ BRIEFITS—Details by IEN-10910 if you write the maker ▼

SPRAY NOZZLES



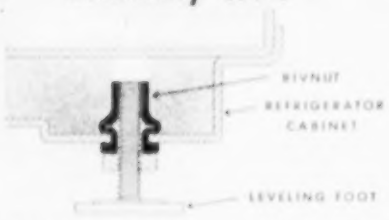
Delavan offers a complete engineering and laboratory service for all volume users of spray nozzles. Let us help you select the correct nozzle for your particular application. You'll save money and get better performance with Delavan nozzles designed for YOUR job.

WRITE NOW FOR
CATALOG NO. 30

DELAVAN MANUFACTURING CO.
3009 SIXTH AVENUE
DES MOINES 13, IOWA

▼ BRIEFITS—Details by IEN-10911 if you write the maker ▼

RIVNUTS solve refrigerator fastening problem...cut assembly costs



Refrigerator designers had the problem of fastening leveling feet to the cabinet. B.F.Goodrich Rivnuts solved it! One man installs the Rivnut in a few seconds. It grips the material tightly. At least 5 threads remain clear. Installation is made after enameling without marring the finish. Many man-hours are saved. If you have a fastening problem, get the help of a Rivnut engineer!

NOW! FREE DEMONSTRATOR!
Shows with motion how Rivnuts work. Explains construction, gives applications. Write to:

B.F.Goodrich
DEPT. IE-110, AKRON, OHIO

▼ BRIEFITS—Details by IEN-10912 if you write the maker ▼

MAUSER "THE ORIGINAL"

MAUSER-PRECISION VERNIER CALIPER

$14.75 POSTPAID

3 GRADUATIONS
1/1000" - 1/128"
1/10 Millimeter in back

FOR MEASURING INSIDE OUTSIDE AND DEPTH!!
THE MOST POPULAR MEASURING TOOL IN AMERICA...
USED BY THOUSANDS OF MECHANICS DAILY!

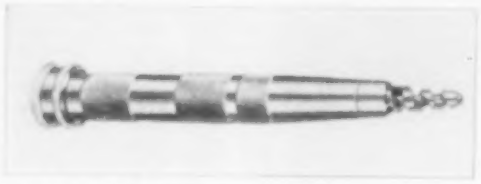
REQUEST ILLUSTRATED CATALOG OR SEND YOUR ORDER TODAY!

GEORGE SCHERR CO., Inc.
COMPLETE LINE OF PRECISION INSTRUMENTS
198-C LAFAYETTE ST • N.Y. 12, N.Y.

▼ BRIEFITS—Details by IEN-10913 if you write the maker ▼

EXTINGUISHING . . Water fog nozzle for 1/4 in. hose opens to solid stream

Source: BETE FOG NOZZLE CO.
274-80 Main St., Greenfield, Mass.



New assembly of the company's spiral-tip nozzle, previously described (IEN-10604-B), can be adjusted to deliver a solid stream of water from a 1/4 in. hose line or a finely-divided water fog that can be engaged on fires in electrical equipment and in paints and oils. It also shuts off completely.

List price is $16.50. Operates at any pressure from 20 to 150 pounds. The fog delivery is in a full cone pattern. Delivery is about 8 gpm of water fog at 100 pounds in the line. Construction is in aluminum-steel and chromium plated brass.

▼ BRIEFITS—Details by IEN-10914 if you write the maker ▼

CLEANING . . Copper shot for blast application, cut from wire

Source: METALS DISINTEGRATING CO.
903 Lehigh Ave., Union, N. J.

Will not imbed in work surface

Copper wire is cut to weather-equal in the desired diameter, by manufacture of the company's new Harrison LLD Cutting slot. The cylinders refuse under severe impact to form splinters, the edges providing the cutting action and the round ends impacting to work a surface. There is no dust from the shot fragments. Application is primarily for cleaning brass and bronze castings.

▼ BRIEFITS—Details by IEN-10919 if you write the maker ▼

LIGHTING . . Fluorescent fixtures for single pin T-12 Slimline lamps

Source: BENJAMIN ELECTRIC MFG. CO.
50 Staud St., Des Plaines, Ill.

Magna-Flo is a new line of open and closed-end fixtures equipped with the company's Springlex lampholders and available for lamps measuring 48, 72 and 96 in. in length. The two-piece reflectors are held in alignment by clips that assist in removal for cleaning. The lampholders employ compression springs to hold the lamps in place and separate electrical contacts to disconnect the primary circuit when the lamps are removed. Detail information is presented in a four 16-page bulletin "Magna-Flo", available upon request.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BRIEFITS—Details by IEN-10916 if you write the maker ▼

CANNON PLUGS

GREATEST VARIETY OF ELECTRIC CONNECTORS FOR MOST ELECTRICAL AND ELECTRONIC USES

CANNON ELECTRIC QUICK-DISCONNECT PLUGS AND RECEPTACLES save time and money in assembly, servicing and inspection of electrical and electronic equipment. Used extensively in aircraft, radio, geophysical instruments, television, public-address systems, industrial controls, communications, motors, x-ray equipment, recorders, cameras, etc., etc.

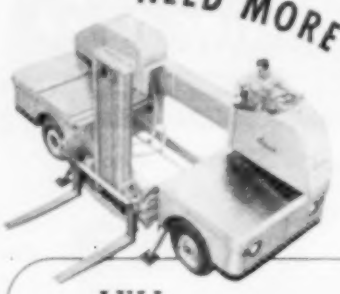
ALSO a full and complete line of SIGNAL EQUIPMENT for hospitals and industrial concerns. Conduit Fittings, specialty lights, etc., Direct-Current Solenoids.

Cannon Electric Equipment Company, Division of Cannon Manufacturing Corporation, 3209 Humboldt St., Los Angeles 31, Calif. Canadian factory: Toronto, Ont. Export: Frazar & Hansen, San Francisco, New York and Los Angeles.

CANNON ELECTRIC

▼ BRIEFITS—Details by IEN-10917 if you write the maker ▼

NEED MORE SPACE?



LULL
Traveloader

EXPANDS THE SPACE YOU HAVE!

● Where ground or floor space is at a premium, the TRAVELOADER makes more use of every square foot because of its exclusive side-loading feature, it needs no room for backing and turning, as from loading semi-tilt. Operates in aisles little wider than its own body—stores 60% more large material in a given area than front-loading equipment. Handles lengths from 6 to 60 feet. Distributes loads equally on 2 axles, 4 wheels. Introduces a complete new system of straight-line pickup, carry and delivery. If you have loads to be picked up, loaded, moved, stacked, investigate the TRAVELOADER. Write for literature, specifications, prices.

LULL MANUFACTURING CO.
3614 E. 44th Street, Minneapolis, Minn.

▼ BRIEFITS—Details by IEN-10918 if you write the maker ▼

BARKSDALE

SOLE DISTRIBUTOR OF
MELETRON
PRESSURE ACTUATED SWITCHES

for industrial applications, offers a new pressure switch handbook to industrial users.

This new issue was compiled for greater convenience in selecting pressure sensing instruments; it includes a selection table based on functional requirements, and a glossary of terms to aid in specifying equipment.

The book covers the entire industrial pressure switch field: Meletron diaphragm type vacuum and low pressure switches, Meletron Bourdon tube high pressure switches, Barksdale piston type long life switches, and various special function units. Send for your copy.

BARKSDALE
4905 SANTA FE AVENUE, LOS ANGELES 58, CALIFORNIA

▼ BRIEFITS—Details by IEN-10919 if you write the maker ▼

GLASS CYLINDERS

Can you use them in your product?

For chemicals, distillation, digestion, visible flagging, lighting fixtures, sight feeders, meters, columns or any other applications, DUNBAR offers you a wide variety of cylinder sizes in numerous quantities. So we will fabricate blown glass cylinders for you some Dunbar catalogue No. C-11.

Dunbar Glass Corporation
DUNBAR, WEST VIRGINIA
NEW YORK CHICAGO CLEVELAND LOS ANGELES

▼ BRIEFITT—Identify by IEN-10920 if you write the maker ▼

You'll raise at lower cost with LO-HED HOISTS

YOU START SAVING the minute you buy a Lo-Hed...it costs no more than other heavy duty hoists but gives far more for your money. And from then you go on saving, for Lo-Heds give longest, most dependable life on the job.

Lo-Hed Hoists have no working parts under the track or "I" beam and are thus able to lift loads higher. With A.C. push button operation, they've a transformer that protects operators...a shrouded bottom block...a hook hung on a revolving bearing...modern, superior electrical cables.

Lo-Heds come in five supporting types and a range of capacities. Units can be engineered for your needs.

LO-HED MEANS LOW OVERHEAD

AMERICAN ENGINEERING COMPANY
PHILADELPHIA 23, PA.

AE Products are: Taylor and Perfect Spread Stakers, Marine Deck Auxiliaries, Rein-Shaw and Hydraulic Fluid Power, Lo-Hed Hoists, Car Shakers, Car Pullers

▼ BRIEFITT—Identify by IEN-10921 if you write the maker ▼

UNTIL YOU TRY this better dry-developed print paper you can't know its ULTRA HIGH FIDELITY

DRIPRINT

You want direct positive prints that are truly faithful to the original, and that's what you get when you use DRIPRINT, the better Dietzgen paper for ammonia vapor development. This ultra high fidelity is characteristic of DRIPRINT. Black, red or blue lines are denser, stronger, cleaner against a whiter background. DRIPRINT paper is tough, too, stands up to repeated folding, rough use. And DRIPRINT paper is ideal for writing on and drawing on with pen, pencil or watercolor.

No wonder more and more print users are insisting on DRIPRINT, especially among those who know the time-and-cost savings of the dry-developed process, where no washing or drying is required. Send for samples of DRIPRINT, and discover its numerous superiorities.

EUGENE DIETZGEN CO. • Chicago • New York • San Francisco
New Orleans • Los Angeles • Pittsburgh • Washington
Philadelphia • Milwaukee. *Dealers in All Principal Cities.*

FREE SAMPLES

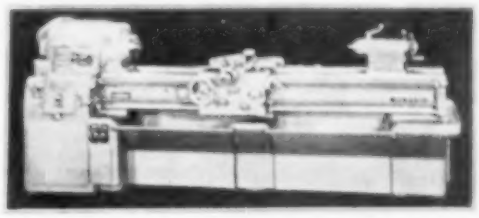
Test DRIPRINT in your own shop, office, field work. Write on your company letterhead for stock samples, sent without obligation.

DIETZGEN
DRAFTING, SURVEYING & PRINT-MAKING MATERIALS, INSTRUMENTS & EQUIPMENT

▼ BRIEFITT—Identify by IEN-10923 if you write the maker ▼

LATHE . . Engine and tool maker's, 12 to 20 in., totally enclosed gearing

Source: MONARCH MACHINE TOOL CO.
613-17 N. Oak St., Sidney, Ohio



Series 60 designates new line of engine lathes and tool maker's lathes with nominal swings of 12, 14, 16 and 20 inches. The design features totally-enclosed gear box and end gearing, provisions for English and metric conversions, constant mesh helical gearing in the headstock with sliding jaw clutches for speed selection, pressure lubrication for the gear boxes, headstock, carriage apron, and carriage bearings on the longitudinal and cross slides.

Shaft bearings are anti-friction design. The spindle is fitted with the American Standard Type D-1 Camlock nose. The headstock is quick clamping design. A inch-turn reverse lever moves in thread chasing. Various designs of tracer controls can be applied to specification.

Catalog. "Series 60 Engine and Toolmakers Lathes". 44 pages, is an excellent pictorial and descriptive presentation of the lathe features and associated equipment covering the one, selective, and operation point by point. Additional 6-page inserts picture each machine and provide specifications.

▼ BRIEFITT—Identify by IEN-10924 if you write the maker ▼

CRANE . . Portable assembly rates 5 ton, hand or power operated

Source: WELLS ALL-STEEL PRODUCTS
10715-19 Chandler Blvd., North Hollywood, Calif.

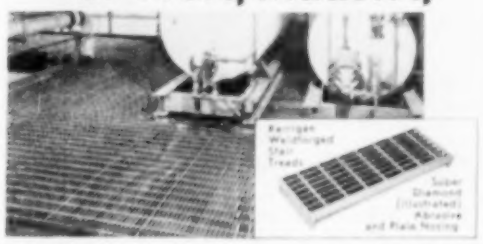
Model AH2 is a new portable crane employing a tubular steel frame, brace and boom with extension legs forming a V-shaped base. The frame is hinged near the base and can be let down to pass through a low opening such as a door, gear. It is raised by operating the same winch that raises and lowers the load hook. Lift height is maximum from ground to hook at 20 feet. Lift speed with the hand-operated winch is about 4 fpm. Overall dimensions are about 18 ft. in width and length and 32 ft. in height. Typical assembly is illustrated.

Mounting is on ball bearing wheels equipped with solid-rubber tires. Jacks at the two base end corners permit leveling on uneven ground. The assembly can be towed from one location to another with speed to 8 mph. Weight is 5,400 pounds. Three designs in the line include the hand-operated assembly, one with a motor drive for specified current characteristics and one that also includes a creep gear mechanism to position the hook and the loaded crane.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 59

▼ BRIEFITT—Identify by IEN-10925 if you write the maker ▼

A SAFER, OPEN STEEL STRONGER^FLOOR for every industry



You get an extra margin of safety with Kerrigan Weldforged steel flooring and stair treads. Continuous spiral crossbars, slightly above bearing bars and alternating right and left leaves no "dirt" seam. Cross bars are Weldforged into bearing bars to form a one-piece unit of great strength.

For safety, strength, maximum light and ventilation, easy installation and maintenance, always specify Kerrigan Weldforged grating and stair treads. In use are stairs, indoors and outdoors, flooring, stair treads, sidewalk doors, catwalks, subway grating . . . to name only a few.

Send today for latest catalog — Write Dep't. 22

Weldforged GRATING DIVISION

KERRIGAN IRON WORKS, INC.
NASHVILLE, TENNESSEE
GENERAL SALES OFFICE 274 MADISON AVE., N.Y.C.

▼ BRIEFITT—Identify by IEN-10926 if you write the maker ▼

Fluid Power Improves Production

LOGAN AIR-DRAULIC FEED-CONTROLLED CYLINDERS

• Power Movements in Any Direction
• No Power Unit Required

Combines

the fast-acting, economical, low pressure operation of **AIR**

with the smooth, uniform controlled regulation of **OIL**

Logan Air-Draulic Cylinders provide far more accurate, uniform action than any ordinary air cylinder. They can be furnished for controlled feed with rapid return in either direction, or in both directions. Skip feed movements can also be provided by means of a cam valve in hydraulic circuit.

5 STANDARD MOUNTING TYPES
Foot • Center Line • Blind End Flange • Round End Flange • Clevis

ENGINEERING SERVICE: Consult our engineers regarding use of cylinders, may send to your press, no obligation.

FREE CATALOGS Write for your free copy of catalog No. 47. Contains full engineering data and diagrams.

Logan *the most dependable Equipment*
LOGANSPORT MACHINE CO. INC.

FLUID POWER SPECIALISTS SINCE 1916

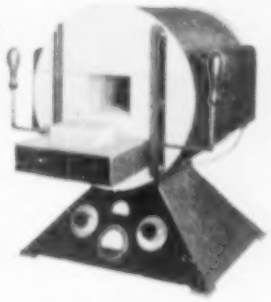
▼ BRIEFITT—Identify by IEN-10927 if you write the maker ▼

HEVI DUTY ELECTRIC COMPANY

FOR TEMPERATURES FROM 1700° F. TO 2600° F.

Use The New

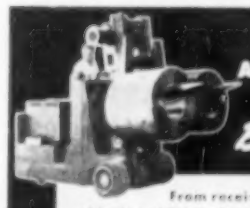
HEVI DUTY "Globar" FURNACE
Type G-05-PT
Inside Diameter
4½" W x 7" L x 2½" H
3500 WATTS
Write for Bulletin LAB-250



- ☆ Less Heat Loss — Improved Insulation and No Rheostats
- ☆ Better Control — Through a 48 Step Tap Changing Transformer
- ☆ Easily Replaceable "Globar" Type Heating Elements
- ☆ Indicating Pyrometer and Tap Switches Mounted in Sliding Drawer.

HEVI DUTY ELECTRIC COMPANY
HEAT TREATING FURNACES HEVI-DUTY ELECTRIC EXCLUSIVELY
DRY TYPE TRANSFORMERS — CONSTANT CURRENT REGULATORS
MILWAUKEE 1, WISCONSIN

▼ BRIEFITT—Identify by IEN-10928 if you write the maker ▼



New MAYTAG Automatic Washer Plant Uses 14 BAKER TRUCKS

From receiving of raw materials to shipping of finished washers BAKER FORK TRUCKS play a vital role in keeping costs to a minimum

FOR EXAMPLE: Handling coils of steel weighing up to 10,000 pounds with a Baker Fork Truck has made it possible to use 5½ foot width coils.

Machined parts are received and stored in special bins—designed for easy access and visibility, and for safe high stoning and handling with fork trucks.

Diecast metal in bundles of pigs is unloaded and stored with Baker 4,000 pound fork trucks.

One operator with a Baker flight weight, low-cost Fork Truck loads cars with finished machines in the time it would take four men with hand trucks!

Write for information

BAKER INDUSTRIAL TRUCK DIVISION *of The Baker-Raulang Company*
1726 West 80th Street • • • Cleveland 2, Ohio

Baker INDUSTRIAL TRUCKS

▼ BREEZIT—Identify by IEN-10929 if you write the maker ▼

For years Ex-Cell-O has been known by American industry as headquarters for precision-made bushings . . . Ex-Cell-O carries one of the largest and most varied stock of drill jig bushings available in the world.

EX-CELL-O CORPORATION • DETROIT 32, MICHIGAN

▼ BREEZIT—Identify by IEN-10930 if you write the maker ▼

Alnor

Velometer

Gives instant, direct reading of Air Velocity —Anywhere!

Here's a precision-built, self-contained, portable instrument that gives instant, accurate reading of air velocities—everywhere, in plants, mines, or mills. Measures speed of flow through ducts, grilles, motors, furnaces, or in the open. Needs no calculations or reference charts. Anyone can use it and get accurate measurements. Available in a wide range of scales, and with a wide assortment of jets and fittings if needed. You'll want full details and prices, so write for Bulletin No. 2448-G. Illinois Testing Laboratories, Inc., Room 517, 420 N. LaSalle Street, Chicago 10, Illinois.

Alnor

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▼ BREEZIT—Identify by IEN-10931 if you write the maker ▼

No More Frozen or Galled STUDS

(even at 1800 F.!) Try this Amazing Money Saver...

FREE Test Sample

of the NEW FEL-PRO

C-5 "HI-TEMP" THREAD COMPOUND

Eliminates Pitting of Stainless and Alloy Steels at all Temperatures!

CUT costly stud breakage, heater dismantling time, pitting of metal surfaces!

We'd like to send you a free sample of the new Fel-Pro C-5 "Hi-Temp" Thread Compound to try on your toughest thread compound problems, including alloy and stainless steels. Then you can see the amazing money-saving results being obtained by the nation's largest refineries, utilities and process industries. Fel-Pro's exclusive Colloidal-Copper formula keeps metal parts separated, regardless of temperatures. Its neutral action solves the alloy and stainless steel pitting problems. One utility company reports that heater dismantling time has been cut from two days to four hours, by the use of Fel-Pro C-5 "Hi-Temp". Why not see what "Hi-Temp" can do for you . . . get your free sample and complete data sheet—write today!

FELT PRODUCTS MFG. CO.
1523 Carroll Ave. Chicago 7, Illinois

▼ BREEZIT—Identify by IEN-10932 if you write the maker ▼

MOTOR CONTROL . . Brush positioner for company's adjustable speed motors

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

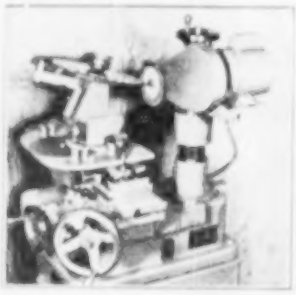
Speed setting can be made or changed at a knob on the end of a 10 or 15-ft. flexible cable connecting to a new motor-driven brush positioner on the company's Type-ACA motors. Turning the knob sets up a brush-limiting stop to which a pilot motor on the main motor will drive the brushes when the main motor circuit is closed. The brushes are returned to their starting position automatically when the motor stops ready for a new start that will again bring the motor to the preset speed until the knob is reset for a new speed.

The device applies on Type-ACA motors rating 2 to 75 hp. with available speed ranges of 3, 6 and 20 to 1. Accelerating time is dependent on the speed of the pilot motor. Representative applications include adjustable-speed drives for printing presses, can-sealing machines, feeds, conveyors, ball mills, mixers, presses, ventilating equipment.

▼ BREEZIT—Identify by IEN-10933 if you write the maker ▼

GRINDING . . Sharpening machine for carbide saws, knives, cutter heads

Source: HANCHETT MFG. CO.
904-8 N. State St., Big Rapids, Mich.



Circular saws from 8 to 24 in., thick or thin knives to 4 in. in width and 12 in. in length, side-head cutters for wood-working equipment can all be sharpened on this new Type CT-18 universal tool-and-cutter grinding machine. Fixtures are available to mount the work in each case. The machine will handle woodworking and metal cutting saw blades with carbide tips, bevel or straight teeth. A knife-bar fixture revolves to present succeeding blades to the wheel. A magnetic chuck serves as the holding fixture to grind thin strip steel.

The wheelhead is mounted on a column and is provided with vertical adjustment. The spindle rides in preloaded ball bearings and takes any shape of grinding wheel. The wheelhead can be set in any position and locked on the column through a complete horizontal circle.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

FIND WHAT YOU WANT?
All products are listed by subject in the index, page 110

▼ BREEZIT—Identify by IEN-10934 if you write the maker ▼

The Portable MORSE ROTATOR

THE NEWEST ADDITION TO 25 YEARS OF SUCCESSFUL MANUFACTURING EXPERIENCE

MODEL 500

SAVES TIME! SAVES LABOR!
SAFELY ROTATES UP TO 500 LBS. AT 10, 20 OR 40 RPM

A powerful, compact motorized unit that will cut costs of mixing, tumbling, slowing, etc. Scientifically engineered for smooth, safe operating. Can be loaded by ONE MAN and is easily moved. The power drive has a ¾" dia. shaft and is equipped with self-aligning bearings. Four 4" dia. Neoprene drive wheels adjustable to take from 1 to 55 gal. cylindrical containers. Wt. before crating 137 lbs. Furnished with motor and gear reduction unit. *Write For Complete Information.*

MORSE *MANUFACTURING CO. INC.*
133 Dickerson Street Syracuse 2, N. Y.

▼ BREEZIT—Identify by IEN-10935 if you write the maker ▼

"NATIONAL"

Self Lubricating Bronze Bearings

Molded to Your Accurate Specifications

Our "DUCTILOY" bearings are made from a unique powder formula, perfected by "National" Engineers, that result in a bearing with properties possessed by no other bearing on the market. Our special alloy makes these bearings highly ductile and eliminates waste due to breakage at installation or from rough handling.

We are also very proud of our line of spherical bearings and of our hard won reputation for the delivery of intricate powdered metal parts, heretofore considered impossible to produce.

Applicable to all medium and light weight service, such as Automobile, Electrical Appliances, Farm Equipment, Domestic Appliances, such as Sweepers, Refrigerators, Washers, Portable Electric Tools, etc., and Industrial Machinery.

LET US HELP SOLVE YOUR BEARING, BUSHING AND SHAFT SEALING PROBLEMS

We are equipped to handle your requirements in any quantity.

NATIONAL MOLDED PRODUCTS, INC.

Manufacturers of

Sintriloy, Ductiloy and Tubeloy Bearings

1945 MILL STREET • ST. MARYS, PA.

▼ BREEZIT—Identify by IEN-10936 if you write the maker ▼

DPi now offers a new gauge for highest vacuum

THE DPA-38 IONIZATION GAUGE CONTROL CIRCUIT BRINGS YOU 3 BIG NEW FEATURES

1 Increased Sensitivity of the Circuit

Now the lowest scale division represents 2 x 10⁻⁸ mm. Hg. The highest vacuum can be easily and accurately measured, particularly the difficult range below 10⁻⁷ mm. Hg.

2 New Direct-Reading Scale

The negative exponent of the number of millimeters of mercury is read on the range selector and the coefficient is read on the dial gauge.

3 Heavy-Duty Adjustable Automatic Relay

protects maximum life of the VG-5A Ionization Gauge Tube. A control point that can be set at any position along the scale, using automatically operates the relay to turn off the ionization filaments and close an external circuit.

For prices or more complete information, write: Vacuum Equipment Department, *Distillation Products Industries*, 200 Ridge Road West, Rochester 3, N. Y. (Division of Eastman Kodak Company)

DPi

high vacuum research and engineering

Also . . . vitamins A and E . . . distilled monoglycerides . . . more than 3300 Eastman Organic Chemicals for science and industry

▼ BREEFITS—directly by IEN-10938 if you write the maker ▼

Another Bancroft-Hickey Original—a wafer-thin abrasive bite for a fine tooth comb.

Others said it couldn't be done—a resinous bonded abrasive wheel that thin (.015 in.) would "dish." Clearly impossible . . . yet we came up with another Bancroft-Hickey Original, a wheel that is that thin but *will not* dish. And the manufacturer of this comb is now equipped with a more efficient, 3-surface bite . . . a more economical, long-term bite than he could ever have hoped for with steel.

If you have an "impossible" grinding problem, take a tip—the answer's in a Bancroft-Hickey Original. Get in touch with us today.

Bancroft-Hickey Originals—special wheels for special purposes . . . as individual as a thumb-print.

BANCROFT-*Hickey*
MANUFACTURING COMPANY
BRISTOL, PA.

▼ BREEFITS—directly by IEN-10939 if you write the maker ▼

THERE'S NO BETTER WAY TO PACKAGE DELICATE OR PRECISION PARTS

than in

Clearsite

PLASTIC SELLING CONTAINERS

Drills and tools, industrial jewels, taps and dies, screws, springs, nozzles, valves, fine machine parts, fishing tackle, electrical parts, and many, many others can be packaged for perfect visibility and the utmost in protection in the container that's featherlight (1/4 the weight of glass) • shatterproof • flexible or rigid • permanently primed • clear or opaque in all colors.

Write for your FREE copy of the new, fully illustrated brochure that points up the many uses and advantages of Clearsite Plastic SELLING Containers.

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CELLUPLASTIC
CORPORATION
32 Avenue L • Newark 5, New Jersey
America's #1 Source for Plastic Containers
Established 1929

Milwaukee • Los Angeles • Detroit • New Haven • Cleveland • Denver • Minneapolis • Cincinnati • Atlanta • Houston • Chicago • Jacksonville • Ft. Worth • St. Louis • San Francisco • Jackson • Richmond • Phoenix • Seattle • Portland • Louisville • Montreal • Toronto

▼ BREEFITS—directly by IEN-10941 if you write the maker ▼

PROTECTING . . Respirator hood made of white nylon with 10 in. window

Source: AMERICAN OPTICAL CO.
12-16 Mechanic St., Southbridge, Mass.

No. 23 is a new light weight combination of the company's No. R5000 respirator for protection against dusts and paint spray with a white nylon hood that fits over the wearer's head and shoulders. Two drawstrings tie under the arms. An elastic strap is sewn into the back to provide a snug fit for various head sizes. The design assures free head and neck movement.

A window at the front is made of clear cellulose acetate to provide front and lateral vision. The window is not designed to withstand impact but it will protect against normal hazards of dust and paint spraying. The hood is reinforced with nylon at critical places. The respirator breathes fits through the hood.

▼ BREEFITS—directly by IEN-10942 if you write the maker ▼

FLOORS . . Liquid wax with colloidal silica, is slip proof

Source: DAVID E. KENNEDY INC.
82-86 Second Ave., Brooklyn 15, N. Y.

in 5 gallon and 55 gallon drums

Kengrip (trade name) non wax, a competitor to the company's floowax, for use on floors. The new liquid material contains colloidal silica to impart slip-proof characteristics to the Carnauba wax base. The liquid is of water-like consistency. The wax dries to a hard surface shine.

▼ BREEFITS—directly by IEN-10943 if you write the maker ▼

PUMP . . Motor driven hydraulic rates 2.8 gpm., pressure to 1,000 lb.

Source: JOHN DUSENBERY CO.
269-73 Grove Ave., Verona, N. J.

Model 301 is a new larger size in the company's line of reservoir-enclosed, motor driven hydraulic pumps, previously described IEN-8331-48. The 1-hp. motor is direct connected to the pump which operates inside the cylindrical reservoir secured to the motor end housing. Connections are provided through the reservoir wall for ⅜ in. flared tubing. Threaded connections for ¼ in. pipe or hose can be specified. The complete assembly includes check and relief valves, also mounted in the reservoir with the pump. Overall dimensions are 20⅝ by 11⅞ by 13 inches. Weight is about 90 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 16

▼ BREEFITS—directly by IEN-10944 if you write the maker ▼

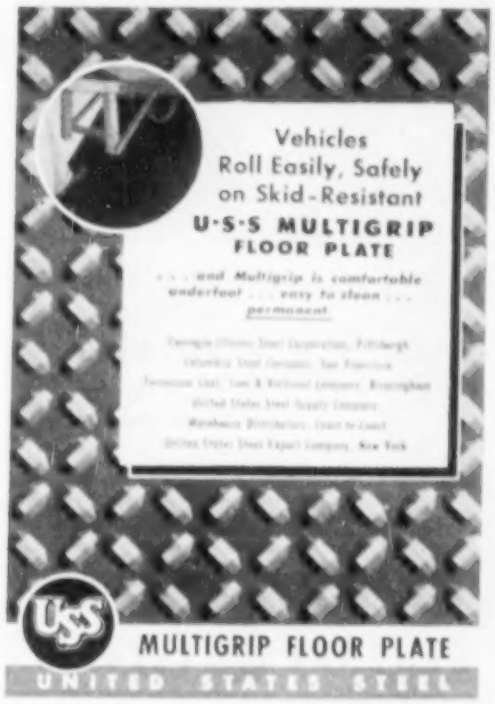
NICE . . . and NEW!

For the Product Designer and Product Manufacturer, an important new addition to the NICE line. Field tested and proven highly successful, the NICE COMPOSITION SEAL design effectively retains lubricant and excludes foreign material.

WRITE FOR NEW CATALOG NO. 140

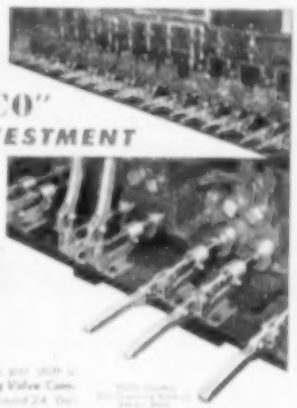
NICE BALL BEARING COMPANY
NICETOWN PHILADELPHIA PENNSYLVANIA

▼ BREEFITS—directly by IEN-10945 if you write the maker ▼



▼ BREEFITS—directly by IEN-10946 if you write the maker ▼

$100 "DE-STA-CO" CLAMP INVESTMENT



saves over $5000 each shift per year

A saving of 12 man-hours per shift is reported by Ross Operating Valve Company with the Fabric-Lock installed 24 De-Sta-Co® model #610 Toggle Clamps.

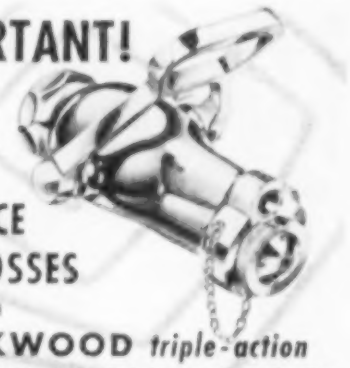
The Fabric-Lock Ross A-Wire can operating valves during a "cycle" operation. The clamp plunger can tipped with rubber grommets which seal exhaust and intake port during the cycle, after which the valves are then down and supported quickly. Besides the actual saving in man-hours, these De-Sta-Co Toggle Clamps convert a tedious setup job into one quickly and accurately performed by less highly skilled labor.

For your problem in production work holding, there's a De-Sta-Co Toggle Clamp that means increased efficiency, accuracy and savings. Whether you're clamping, welding, gluing, bending, inspecting or assembling, you don't hold— and clamp— with De-Sta-Co Toggle Clamps. Our catalog describes more than 40 Fabric and quick-release holding capacities from 275 to 5000 lbs. Write for your copy today, and name of nearest De-Sta-Co distributor.

DETROIT STAMPING COMPANY
342 MIDLAND AVENUE
DETROIT 3, MICHIGAN

▼ BREEFITS—directly by IEN-10947 if you write the maker ▼

IMPORTANT!



REDUCE FIRE LOSSES with ROCKWOOD *triple-action* SG-48 WaterFOG NOZZLES

Improve your fire protection now by installing throughout your plant, Rockwood triple-action WaterFOG Nozzles. They give ordinary water greater fire extinguishing power and will out-perform any other fog nozzles operating on either high or low water pressures.

Rockwood WaterFOG Nozzles are light in weight and are easier to handle in action. This modern nozzle discharges 1. high velocity WaterFOG 2. straight stream 3. low velocity WaterFOG from extension applicator which can be easily inserted in place of the high velocity WaterFOG tip. Provides firemen with greater protection and fire fighting efficiency.

Approved by Underwriters' Laboratories, Inc. and Factory Mutual Laboratories. Ask for bulletin C.501R.

ROCKWOOD SPRINKLER CO.
40 HARLOW STREET • WORCESTER 5, MASS.

▼ BRIEFITS—Identify by IEN-10948 if you write the maker ▼

GENERAL ELECTRIC

▼ BRIEFITS—Identify by IEN-10949 if you write the maker ▼

▼ BRIEFITS—Identify by IEN-10950 if you write the maker ▼

▼ BRIEFITS—Identify by IEN-10951 if you write the maker ▼

SEPARATING . . Permanent magnet mounts in duct to stop ferrous metal

Source: DINGS MAGNETIC SEPARATOR CO.
4738-42 W. Electric Ave., Milwaukee 46, Wis.

Double assembly shown as the Hump Magnet, is shown to the left in the illustration showing application of the company's new Perma-Plate line of permanent magnets. Typical application, under a trough is shown to the right. The Hump unit can be employed vertically for gravity flow or horizontally to handle materials carried in an air stream passing through the assembly.

▼ BRIEFITS—Identify by IEN-10952 if you write the maker ▼

PROTECTING . . Illuminated shield for grinder, sander, machine tools

Source: STANLEY ELECTRIC TOOLS DIVISION
478-82 Myrtle St., New Britain, Conn.

Flud Lite trade name new illuminated eye shield for application on a grinding machine, sander, machine tool to protect the operator against flying dust and chips. The assembly consists of a die-cast aluminum frame, two sheets of glass, a mounting bracket and a fluorescent lamp. Two sizes number 4 by 6 in. and 6 by 10 in. glass. List price in the two sizes and arrangements is from $8 to $10.50.

▼ BRIEFITS—Identify by IEN-10953 if you write the maker ▼

GAGE . . Reads dry film thickness of non-magnetic coat on magnetic metal

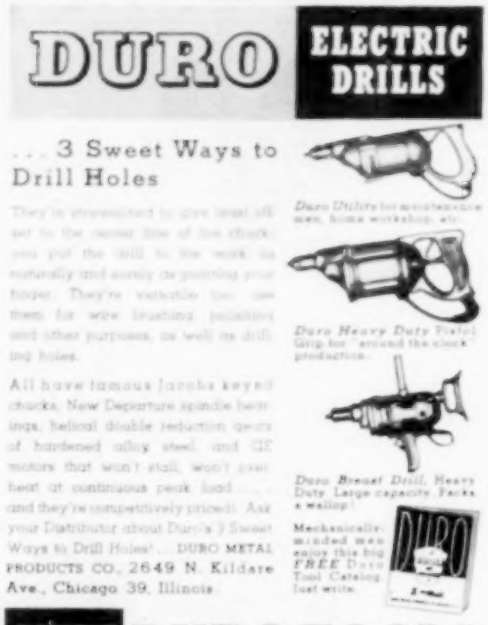
Source: HENRY A. GARDNER LABORATORY INC.
4720 Elm St., Bethesda 14, Md.

Elometer is a new magnetically operated gage to check the thickness of a non-magnetic film such as paint that has been applied and dried on sheet metal. The reading is in terms of magnetic resistance of the film. It is shown by a pointer that travels over a calibrated scale, can be locked at the point of reading in a spot where application hides the scale at the moment. List price of the new gage is $50.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 10

▼ BRIEFITS—Identify by IEN-10954 if you write the maker ▼

▼ BRIEFITS—Identify by IEN-10955 if you write the maker ▼



▼ BRIEFITS—Identify by IEN-10956 if you write the maker ▼

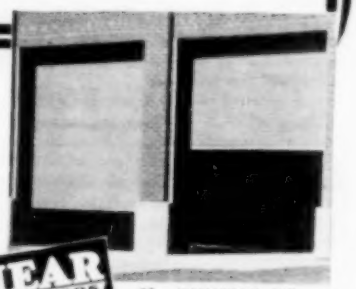
▼ BRIEFITS—Identify by IEN-10957 if you write the maker ▼

▼ DIRECT—Identify by IEN-10958 if you write the maker ▼

KINNEAR

STEEL ROLLING DOORS

Kinnear Rolling Doors *save space* by opening straight upward and coiling above the doorway. All floor and wall areas around the door, *inside and out*, are fully usable at all times. Their easy gliding action *saves time*. In addition, Kinnear Rolling Doors *save money*; their rugged, all-steel interlocking slat curtain assures long life, low maintenance and extra, low-cost protection against fire, intrusion, wind or accidental damage. Built to fit any doorway. Write for complete details.



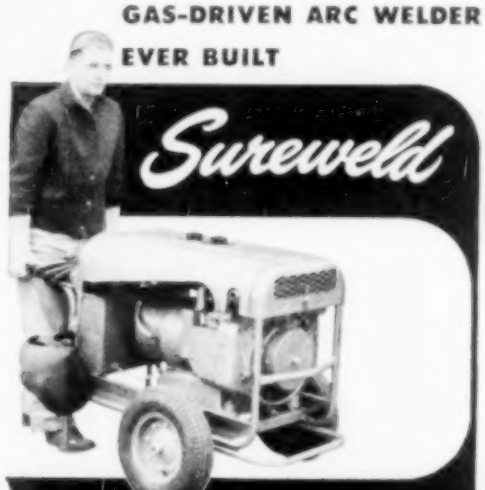
MOTOR CONTROL For extra speed and convenience Kinnear Rolling Doors may be equipped with Kinnear Motor Operators—with any number of handy pushbutton control stations.

KINNEAR ROLLING DOORS

The KINNEAR Mfg. Co.
2380-2400 Fields Ave. • Columbus 16, Ohio
1742 Yosemite Ave. • San Francisco 24, Calif.

▼ DIRECT—Identify by IEN-10959 if you write the maker ▼

THE MOST PORTABLE GAS-DRIVEN ARC WELDER EVER BUILT



MODEL HGW-150

Weighs only 365 lbs. Air-cooled gasoline engine. Heavy duty generator. Dual controls. Equipped for emergency lighting.

THIS is the welder that can be used anywhere because it's compact, and the lightest-weight gas driven D.C. machine ever built. One man can move it easily. Two men can lift it.

Yet, it is strong and durable because of a weight-saving air-cooled engine and the extensive use of aluminum. And it has the capacity to do a wide range of welding jobs or sweetheart work, maintenance and repair.

No other machine can match the SUREWELD HGW-150 for portability and performance. And it can quickly pay for itself by cutting welding costs.

Write today for Illustrated Bulletin

NATIONAL CYLINDER GAS COMPANY
844 North Michigan Avenue Chicago 11, Illinois

NCG
EVERYTHING FOR WELDING

▼ DIRECT—Identify by IEN-10961 if you write the maker ▼

TRUCK . . Power lift and travel, skid handling platform, 2 and 3 ton

Source: YALE & TOWNE MFG. CO.
11002 Roosevelt Ave., Philadelphia 15, Pa.

Stubby designates new assembly in the company's Worksaver line in which Model M84 and M86 have been shortened in length of the power unit by 6 in. as compared to previous designs. The power section now measures 28 inches in length. The platform is standard in 6-in. increments between 30 and 72 inches. Platform heights are 6 to 11 in. in lowered position with lift range through 4 inches. Platform widths are 19, 23 and 36 inches.

▼ DIRECT—Identify by IEN-10962 if you write the maker ▼

PIPE . . Laminated plastic design for structural use and fluid handling

Source: UNITED STATES PLYWOOD CORP.
55 W. 44th St., Room 500, New York 18, N. Y.

Bulletin, 4 pages
Glasweld Tubing

Glasweld trade names new pipe in which glass cloth, mat or tape is wound on a mandrel treated with various resins and then cured. The pipe is available in ¼ to 6-in. nominal exterior diameter when convolutely wrapped and to 12 in. when wrapped spirally. Lengths are to 30 feet. Fittings are made in sizes from 1 to 6 in. inside diameter.

Pressure capacity is to 600 lb. when assembled with fittings such as tees, elbows, the strength being limited by the capacity of the fittings rather than the pipe. Capacity is to 1,000 lb. or more for the pipe when assembled only with sleeves or couplings. Temperature for continuous operation varies from minus 60 deg. to plus 275 deg. F. Operation can be held for short intervals to 425 deg.

▼ DIRECT—Identify by IEN-10963 if you write the maker ▼

VALVE . . Solenoid operated, 4-way, for hydraulic pressure to 1,500 pounds

Source: RIVETT LATHE & GRINDER INC.
20-24 Riverview Road, Brighton 35, Mass.

Series 5500 is a new assembly of the company's 4-way balanced piston hydraulic valve and two continuous-duty solenoids. The solenoids connect into a control circuit to move the valve to right or left and to hold it prior to a succeeding actuation. The piston is hardened, ground and capped for precision fit.

Five sizes range from ¼ to 1 in. threaded port connections and measure 17½ to 23 in. in overall length. Operating current is subject to specification at 110, 220, 440 and 50/60 cycle ac.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER Descriptions Ratings See Page 50

▼ DIRECT—Identify by IEN-10964 if you write the maker ▼

The JOHN CRANE Shaft Seal is being supplied with tremendous success to all types of equipment involving rotating shafts. Service and product improvement records have been outstanding, for this self-adjusting seal practically eliminates the human element in maintenance.

Investigate the JOHN CRANE Shaft Seal. Let our Engineers show you without obligation how this seal can add new sales features to your products.

Write today for Illustrated Shaft Seal Bulletin.

CRANE PACKING COMPANY
1815 CUYLER AVENUE • CHICAGO 13, ILLINOIS

▼ DIRECT—Identify by IEN-10965 if you write the maker ▼

with the Gottscho ROLAPRINTER

Imprinting trade names and measured cut-off marks on linoleum is an integral part of Sloane-Blabon's production operation. This is accomplished with the Gottscho ROLAPRINTER . . . a small, compact, precision-engineered machine that automatically prints continuous or repeated designs on any kind of sheet or strip material at speeds up to 700' per minute. Affords "print-quality" impressions up to 8" wide. Uses fast-drying inks of any color for light and dark surfaces.

Write for Data Sheet 12.0

ADOLPH GOTTSCHO, INC.
MACHINES TO MARK WHATEVER YOU MAKE
6 EVANS TERMINAL • HILLSIDE 5, N. J.

▼ DIRECT—Identify by IEN-10966 if you write the maker ▼

Steady heat Smooth flow with STANLEY ELECTRIC SOLDERING IRONS

Stanley No. 350 Soldering Iron

Stanley Irons stand up under constant use and high temperature because the heat conducting core is properly wound and the heating load is sealed so that moisture and flux fumes can't enter. Comfortable and easy to use . . . light, properly balanced and with red hardwood handle. Models for both screw-in cartridge and solid metal core or plug-in. Write for free helpful booklet, "Expert Soldering" Stanley Tools, New Britain, Conn.

THE TOOL BOX OF THE WORLD

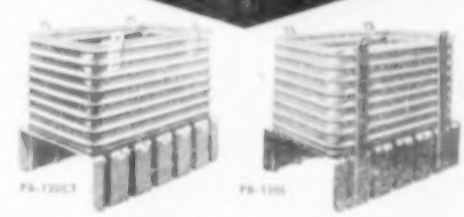
STANLEY

Pat. U.S. Not Off.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

▼ DIRECT—Identify by IEN-10967 if you write the maker ▼

TRUSCON has the MATERIALS HANDLING EQUIPMENT *to fit your needs!*



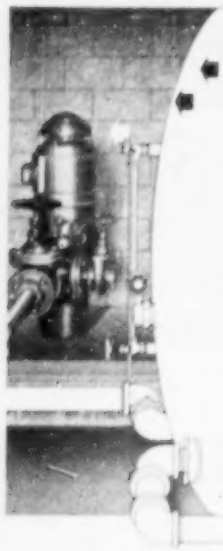
The production line keeps moving, as schedule, when parts and materials are stored and moved in Truscon Steel Boxes and Skids. Truscon materials handling equipment assures efficient storage and movement of parts, and makes sure man hours are used for valuable production instead of wasteful waiting.

To find the Truscon Steel Boxes and Skids to meet your needs, write for free, illustrated catalog.

TRUSCON STEEL COMPANY Pressed Steel Division
6200 Truscon Ave., Cleveland 4, Ohio
Subsidiary of Republic Steel Corporation

TRUSCON STEEL BOXES AND SKID PLATFORMS

▼ BRIEFIT—Identify by IEN-10968 if you write the maker ▼



DEMING PUMP

saves owner $900.00 per year on water

Factory water supply cost a small manufacturer $1200.00 a year. A check-up was made to determine the cost of drilling a well and installing a Deming Deep Well Turbine Pump.

As a result of the check-up the installation was made. The annual saving on water averages $900.00.

Savings as high as 60% on water costs have been made with Deming Deep Well Turbine Pumps. A Deming Distributor is near you to help YOU check up on YOUR costs of water.

In the meantime, write for the free BULLETIN 4700 which explains details about Deming Deep Well Turbine Pumps.

THE DEMING CO. • 521 BROADWAY • SALEM, OHIO

Deming Pumps

▼ BRIEFIT—Identify by IEN-10969 if you write the maker ▼

See These?

They join pipe in 30 seconds!

Dresser "No-Thread" Fittings join pipe *permanently* in less time than it takes to tell about it. Simply stab a fitting over plain pipe ends, tighten end nuts with a wrench. That's all. No threading to weaken pipe wall. No exact pipe fitting or aligning needed. Resilient gaskets absorb vibration, expansion, contraction. Use on gas, oil, air and water lines from ¾" to 2" I.D. Write today for catalog.

DRESSER "NO-THREAD" FITTINGS

Dresser Manufacturing Division, Dept. of the Dresser Industries, 59 Fisher Ave., Bradford, Pa. In Canada: 1123 Bathurst St., Toronto 4; Canada Cycle & Motor Co., Limited, Dept. "NT", Montreal. Sales Offices: New York, Chicago, Houston, San Francisco.

▼ BRIEFIT—Identify by IEN-10970 if you write the maker ▼

In Any Location— A Quiet Spot for Telephoning

The modern, doorless Burgess-Manning Acoustic Booth provides a quiet spot for telephoning . . . in noisy locations anywhere. Thick walls of sound-absorbent material soak up noise. Conversations are clearer . . . "private."

ALSO
- Banks
- Bus Terminals
- Railroad Stations
- Utility Plants

MAIL COUPON FOR FREE BULLETIN BURGESS-MANNING COMPANY 745-A East Park Ave., Libertyville, Illinois

Please send booklet describing Burgess-Manning Acoustic Booths

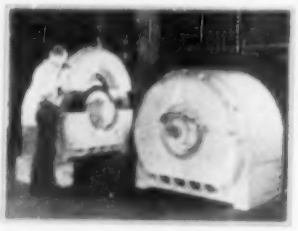
Name _____ Firm Name _____

Street _____ City _____

▼ BRIEFIT—Identify by IEN-10971 if you write the maker ▼

MOTOR . . Squirrel cage induction, 60 to 1,500 hp., 300 to 1,800 rpm.

Source: ALLIS-CHALMERS MFG. CO. 909 S. 70th St., Milwaukee 14, Wis.



Sleeve bearings are enclosed in cast-iron housings, both of split design, and are assembled by butting to the flanges of split end bearings or brackets in this recently improved Type-ANW motor. The arrangement permits removal of the upper part of the brackets for motor inspection without opening the bearings. The lower bracket halves carry bottom openings for ventilating air. Auxiliary lower-protected openings in the sides of the stator yoke keep the motor feet permit access to the air passages back of the stator coils for vacuum cleaning or blowing out.

The motor is available with modifications to meet given requirements. The two generation classes in the illustration rate 200 hp. at 2300 volts at 600 rpm. and 200-110 hp. at 2300 volts on 700-500 rpm.

▼ BRIEFIT—Identify by IEN-10972 if you write the maker ▼

PROTECTING . . Fog proofing liquid for goggles, respirators, helmets

Source: WILKINS CO. 218-22 Groton Ave., Cortland 26, N. Y.

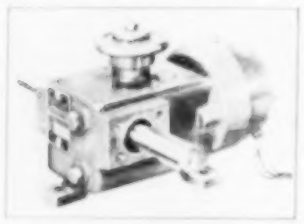
Packaged in hand bottles

Fog-Free trade-marked new liquid for application on optical lenses to form an invisible coating that will prevent fog, fog and steaming. Application starts with the use of the company's K-Lens M cleaner tissues. Then the Fog-Free is sprayed and polished, again using the tissues. One application will last for several hours.

▼ BRIEFIT—Identify by IEN-10973 if you write the maker ▼

MOTOR . . Geared head design, clutch equipped, rates 220 inch pounds

Source: JANETTE MFG. CO. 554-60 W. Monroe St., Chicago 6, Ill.

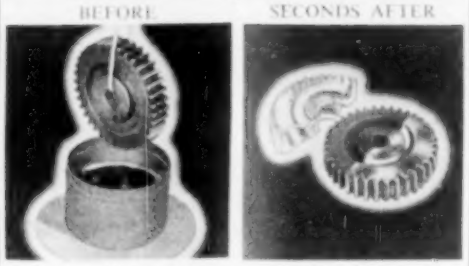


Type BO is a new assembly of single-phase 60-cycle 110-volt motor for reversing duty and a geared head that reduces the 1725 r.p.m. motor speed to 4 r.p.m. Included in the reduction housing is a disconnecting clutch that is operated by a handwheel on the housing. One end of the hardened output shaft connects to the drive. The other drives a limit switch. Overall size is about 8¾ by 9½ by 8¾ inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30

▼ BRIEFIT—Identify by IEN-10974 if you write the maker ▼

HOT MELT PLASTIC COATINGS for GEARS • TOOLS • PRECISION PARTS



Dip — Coated • Protected

DIP-PAK Protect vital, expensive tools, gears, and machined parts during storage and shipping with Fidelity's durable coatings. Merely melt coating, dip parts, cool. Transparent plastic coat. Lasts indefinitely. Tough, resistant. To remove, heat, moisture, rust proof. Re-melt, re-use coating. Economical, practical, rapid. Protect parts, save money.

Write for Bulletins and Free Samples
Fidelity Chemical Products Corp.
470 Freilinghuysen Avenue, Newark 5, N. J.

▼ BRIEFIT—Identify by IEN-10975 if you write the maker ▼

N & F SILOS Carry Heavy Superstructure

Without extra supports, the Neff & Fry silos shown in the photograph carry the heavy machinery for screening and grading silica sand. This emphasizes the stamina of N & F Super-Concrete Stave construction.

N & F staves are formed under tremendous hydraulic pressure, then watered and cured. This results in a composition of extreme density and high compressive strength.

Thousands of N & F Silos are being used for storing many kinds of flowable bulk materials—grain, sand, coal, clay, ore, chemicals, wood chips, seeds, peanuts, etc. We can cite numerous examples pertinent to your own storage and handling problems.

Before you decide upon storage bins, ask for complete information about N & F Super-Concrete Stave Silos. A copy of our interesting catalog will be gladly sent upon request.

THE NEFF & FRY COMPANY
EAST CENTRAL AVE., CAMDEN, OHIO

NEFF & FRY STORAGE BINS

▼ BRIEFIT—Identify by IEN-10976 if you write the maker ▼

lift trucks are sensitive, too

Mono-Cushion
INDUSTRIAL VEHICLE TIRES

TOUGH ALL THE WAY THROUGH
CUSHION ALL THE WAY THROUGH

The lift truck driver who judges tires by the seat of his pants isn't far wrong, cost wise. Mono-Cushions will save you plenty on repairs by giving your truck (and drivers) an easier ride than any other type of industrial tire, size for size. They'll drastically reduce maintenance on steering mechanisms, bearings, differentials, universals, transmissions—any part of the truck affected by shock or shock load.

Mono-Cushions will cut costs in other ways, too. They're long-wearing, they need no servicing, and they're puncture-proof—go anywhere in the plant. They're easy on loads, easy on floors. They're stable, sure-footed.

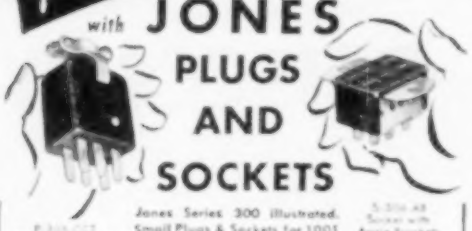
The leading manufacturers of industrial vehicles use Mono-Cushions as original equipment. Replacement tires available through the manufacturer of your equipment or his distributors.

THE MONARCH RUBBER COMPANY
201 LINCOLN PARK HARTVILLE, OHIO

SPECIALISTS IN INDUSTRIAL SOLID TIRES AND MOLDED MECHANICAL RUBBER GOODS

▼ BREVITY—Identify by IEN-10978 if you write the maker ▼

INSURE Proven Quality with JONES PLUGS AND SOCKETS



Jones Series 300 illustrated. Small Plugs & Sockets for 1001 Uses. Cap or panel mounting.

P-300-CCT Plug, Cable Clamp & Cap.

S-300-AB Socket with Angle Brackets.

- Knife-switch socket contacts phosphor bronze, cadmium plated.
- Bar type Plug contacts brass, cadmium plated, with cross section of 3/32" by 3/64".
- Insulation molded bakelite.
- All Plugs and Sockets polarized.
- Metal Caps, with formed fibre linings.
- Made in two to 33 contacts.
- For 43 volts, 5 amperes. Efficient at much higher ratings where circuit characteristics permit.

Ask for Jones Catalog No. 17 showing complete line of Electrical Connecting Devices, Plugs, Sockets, Terminal Strips. Write or wire today.

Send for complete data on this new basic improvement!

Jones HOWARD B. JONES DIVISION CINCH MANUFACTURING CORPORATION CHICAGO 24, ILLINOIS SUBSIDIARY OF UNITED-CARR FASTENER CORP.

▼ BREVITY—Identify by IEN-10979 if you write the maker ▼

CAPCO DOCK COVERS OFFER YEAR 'ROUND PROTECTION

SOLD AT A LOW COST

...and the cost is especially low because it pays for itself many times...saves time and money over many years.

- PREVENTS ACCIDENTS
- ONE MAN CAN OPERATE
- FIREPROOF
- WATERPROOF
- DURABLE — LONG LIFE
- DEPENDABLE

Can be installed inside or outside of dock door . . . models for various purposes.

BEAT THE BAD WEATHER

CAPCO Dock Covers completely enclose the space between car and building doorways, protecting loading and unloading during bad weather. Recommended by safety engineers. No more wet merchandise in the rain . . . no more interruption during winter. Here's your insurance against loss of either heat or refrigeration; you have practically the same as indoor loading.

CAPCO

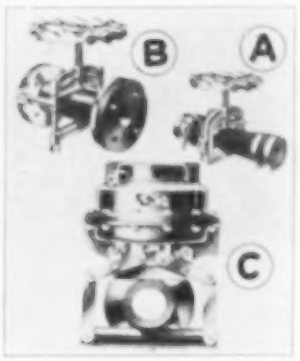
Be sure to write for illustrated literature and prices.

622-24 PROSPECT AVENUE • KANSAS CITY 1, MISSOURI

▼ BREVITY—Identify by IEN-10981 if you write the maker ▼

VALVE . . Rubber pinch design for line shutoff, 1/2 to 12 in. sizes

Source: FLEXIBLE VALVE CORP.
550 Commercial Ave., Palisades Park, N. J.



Slip-on design as shown at A in the illustration. Saddle utilized in the company's previously the swinged, hand-operated flange unit shown at B and the diaphragm-operated, design shown at C. The saddle is equipped with screw-type clamping bands at the two ends for assembly on a pipe line. Sizes range from 1/2 to 2½ in. in the new design. From 3 to 10 in. with diaphragm operation and from 3 to 12 in. with flanges.

Pressure rating is to 125 lb. with maximum temperature at 180 deg. F. For the slipon design. Overall length is 5 to 10 inches. Distance between facing ends of the pipe on which the valve assembles is 2 to 10 inches. The valve closes air tight on solids in the flow stream as large as ¼ inch. List price is about $14 to $45.

Bulletin 455, 16 pages, presents illustrations, dimensions, drawings and tabulations covering pressure ratings, list prices, pipe-line flow for water under given pressure drop.

▼ BREVITY—Identify by IEN-10982 if you write the maker ▼

HEATING . . Gas fired space unit seven sizes, to 210,000 btu. per hr.

Source: TRANE CO.
2017 Cameron Ave., La Crosse, Wis.

Gas burners fire into the company's Torrid Tube heat exchanger in this new unit heater. The exchanger is equipped with steel tubes rolled into end sheets and reinforced with outer and inner rolled flanges. A baffle in diameter permits back drafts and drafts to bypass the burner assembly so they will not affect operation. Burner heads and mixing tubes are one-piece construction in cast iron. They are replaceable.

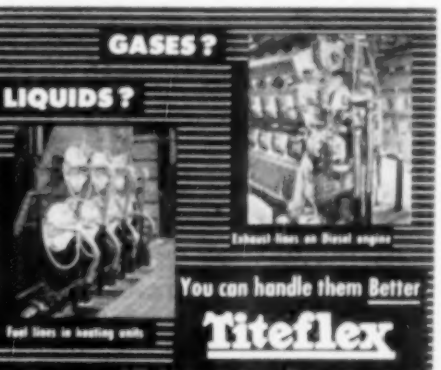
Burners, pilot and control valves are in one drawer type assembly. A limit switch prevents overheating. Both the gas main and the pilot will cut off in the event of fuel failure. The assembly includes a motor-driven fan at the rear. Seven sizes have capacities at 50,000 to 210,000 btu. per hour. Air handling capacity is 500 to 2,200 cfm.

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

▼ BREVITY—Identify by IEN-10983 if you write the maker ▼

GASES?

LIQUIDS?



Exhaust lines on Diesel engine

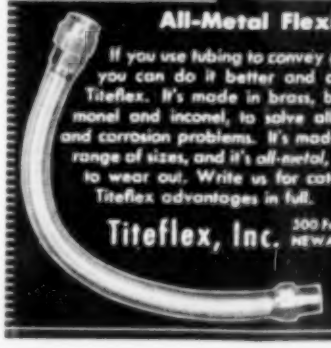
Fuel lines in heating units

You can handle them Better

Titeflex

All-Metal Flexible Tubing

If you use tubing to convey gases or liquids, you can do it better and at less cost with Titeflex. It's made in brass, bronze, stainless, monel and inconel, to solve all heat, pressure and corrosion problems. It's made in a complete range of sizes, and it's *all-metal*, with no packing to wear out. Write us for catalog describing Titeflex advantages in full.



Titeflex, Inc. 500 Frelinghuysen Avenue NEWARK 5, NEW JERSEY

TITEFLEX LASTS LONGER BECAUSE IT'S ALL-METAL

▼ BREVITY—Identify by IEN-10984 if you write the maker ▼

the "holes in our heads" are full

OF COST-CUTTING IDEAS

Yes, the "holes" in our engineers' heads are full of ideas to give you newer, better, lower cost methods of boring . . . methods that save you time and money. If your job needs a special bar or special cutter, we'll design and make it. Chances are a standard Madison cutter or the right Madison bar will give you greater production economy. Let Madison's experienced boring specialists . . . the "men with holes in their heads" . . . help you cut your boring costs. Submit your problems for recommendations by our problem solving tool design department. Of course there's no obligation.

When you ask for information, tell Madison Catalog 11 is your file address.

MADISON MANUFACTURING COMPANY
Dept. EN Muskegon, Michigan

▼ BREVITY—Identify by IEN-10985 if you write the maker ▼

Rolling Steel Doors

Manually • Mechanically • Power Operated

No other type of door offers as many desirable features as a good Rolling Steel Door . . . open or closed, they occupy no usable space inside or outside the opening. All-metal construction assures permanence and a lifetime of continuous trouble-free service. Push-button controlled vertical rollup action provides the quick, timesaving door operation demanded today by all industrial and commercial concerns. When you buy Mahon Rolling Steel Doors you get the latest developments in doors of this type—comparison will convince you. See Sweet's File for complete information, or write for Catalog No. O-50.

THE R. C. MAHON COMPANY
Detroit 34, Michigan • Representatives in All Principal Cities

MAHON

▼ BREVITY—Identify by IEN-10986 if you write the maker ▼

For Perfect Packaging

Rely on... BRAINARD STRAPPING SYSTEM

Nature saw to it that person was packaged perfectly. The package is lighter, strong, compact and protective. If you are interested in packaging your product as nearly perfect as possible, ask the Brainard Strapping System specialists. They'll find there are many ways you can save time, money and damage claims.

STRAPPING DIVISION
BRAINARD STEEL COMPANY
21511 LARCHMONT AVE., WARREN, OHIO

We would like to have Brainard's packaging specialists look over our packaging operation.

NAME
TITLE
COMPANY
ADDRESS
CITY STATE

▼ BRIEFITS—Details by IEN-10987 if you write the maker ▼

18 Solder Joints-1¢

THIS EXAMPLE is typical of many reports on hundreds of jobs using Allis-Chalmers Induction Heaters. In one instance, production passed fast and deeper with Allis-Chalmers Induction Heaters.

First of all, these units are highly versatile! The new heater can braze, solder, anneal, cure and through-harden by simple changing the work coil. Work coils are easy to make. When coils are changed, there's no need for additional output transformers (needed on most units) which require special thinking and skilled help to install.

ALLIS-CHALMERS, 909A SO. 70 ST., MILWAUKEE, WIS.

4-5202

ALLIS-CHALMERS A-C

▼ BRIEFITS—Details by IEN-10988 if you write the maker ▼

Saves you more actual time, right on the job, than any other tool in your kit!

- **NO STARTING HOLE NEEDED**... Simply place guide next to material and "rock" tool into an upright position.
- **CUTS RIGHT THRU IMBEDDED NAILS**... wood, plaster, iron pipe, sheet metal and most other materials are easily cut—even in cramped quarters!
- **FITS HEAVY DUTY ¼" or ⅜" DRILL**... as easy as changing bits! Overall length only 10¼", weight only 3 lbs. 8 ozs.
- **BUILT FOR CONSTANT DUTY OPERATION**... Built-in blower keeps Super Saw cool even when used continuously and blows sawdust away from cutting line. Replaceable Oilite, phosphor bronze and high speed ball bearings throughout.

Write for Bulletin No. 110

R.C.S. TOOL SALES CORPORATION
JOLIET, ILLINOIS, U. S. A.

▼ BRIEFITS—Details by IEN-10989 if you write the maker ▼

MINNEAPOLIS-MOLINE MODERN MACHINERY

HEAVY-DUTY

FOR ALL TYPES OF EQUIPMENT

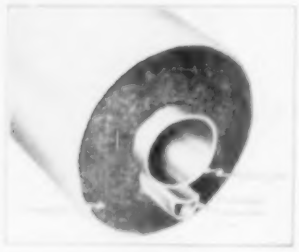
6 SIZES 25 to 210 h. p.

MINNEAPOLIS-MOLINE
MINNEAPOLIS 1, MINNESOTA

▼ BRIEFITS—Details by IEN-10990 if you write the maker ▼

PIPE . . Insulated lengths with companion heating or cooling pipe

Source: COND-O-THERM
16-20 Littleton Ave., Newark 7, N. J.



Copper, Monel, stainless steel can be specified as the current companion pipe that goes with a main line pipe to flow new, easy-to-install assembly. Electrical or heating fluid can be run through the companion pipe to heat a second temperature in the main line. The heavy insulation around both holds the thermal conditions steady. Connections and sizes are to order.

▼ BRIEFITS—Details by IEN-10991 if you write the maker ▼

MARKING . . Steel stamps to impress fractional figures, symbols

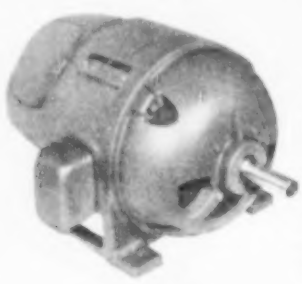
Source: ACME MARKING EQUIPMENT CO.
8038 Lyndon Ave., Detroit 21, Mich.

New set of steel stamps contains 31 fractional figures in 'Gothic with the white numbers 1, 2 and 3 and with a dash and an inches sign. The stamps are made of tool steel hard for protection against impact and with striking pads hardened to prevent mushrooming or chipping. Assembly is in hardwood blocks.

▼ BRIEFITS—Details by IEN-10992 if you write the maker ▼

MOTOR . . Single-phase ac., 5 to 10 hp., 1,800 rpm., 115/230 volts

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.



Type SRC is a new constant-speed, high torque single-phase motor in the company's Tri-Clad line. Three ratings are 5, 7½ and 10 hp. The smallest operates on 110/220-volt input. The others operate on 220 volts. Typical applications include drive for compressors, pumps, stokers.

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 10

▼ BRIEFITS—Details by IEN-10993 if you write the maker ▼

TRABON LUBRICATING EQUIPMENT
Delivers a Measured Amount of Lubricant

- To Any Bearing . . .
- In Any Location . . .
- Under Any Condition

Since 1930 Trabon has been engineering, manufacturing, and installing centralized lubricating systems . . . for plain bearings, roller bearings, and ball bearings . . .

Since 1922 Trabon has been helping industry solve its lubricating and bearing problems.

Call Trabon in regard to your lubrication requirements.

In the plant of Cook, Inc., Chicago, a Trabon system services 221 points of lubrication on this machine, which produces 212 cases per minute.

Trabon

OIL AND GREASE SYSTEMS

TRABON ENGINEERING CORP.
1814 East 40th Street
Cleveland 3, Ohio

▼ BRIEFITS—Details by IEN-10994 if you write the maker ▼

reduce deadweight
...increase payloads
WITH **J&L**

J&L STEEL

OTISCOLOY

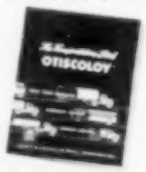
HI-TENSILE STEEL

Reduce the weight of structures as much as 35% with J&L Otiscoloy—without the loss of strength.

J&L OTISCOLOY:—

- Has twice the yield strength of mild steel
- Has greater fatigue resistance than mild steel
- Is resistant to abrasion
- Has atmospheric corrosion resistance 6 times better than carbon steel

Otiscoloy can be formed hot or cold, welded, forged, flame-cut and otherwise worked by standard methods. Here is a modern steel that is worth your investigation. For further information about Otiscoloy, write for your copy of "Otiscoloy—High-Tensile Steel."



JONES & LAUGHLIN STEEL CORPORATION
455 Jones & Laughlin Building, Pittsburgh 19, Pennsylvania

▼ BRIEFITS—Details by IEN-10995 if you write the maker ▼

3M seals glass eggs that "hatch" explosions!

Explosive-filled glass eggs, fired deep in oil wells, produce new or increased oil flows. They're called "formation perforators." Blasts are "hatched" with utmost precision to control and aim the explosive forces in any desired direction. Sealing the explosives within the glass eggs is critical, too! 3M Sealer EC-801 has been proved to withstand the high heat encountered and tremendous pressures involved . . measured in thousands of pounds per square inch.

EC-801 is only one of many sealers developed by the 3M Company for such tough jobs. Over 1,000 basic sealer, adhesive and coating formulas are ready to solve your particular problem. If we haven't the one you need, we can probably make it for you.

And 3M Field Engineers, together with laboratory and research facilities, are available to help you secure an adhesive, coating or sealer designed to your special requirements. There is no charge for this service. Send today for your copy of "3M Adhesives, Coatings, Sealers." Write Dept. IEN-115.

3M BRAND
ADHESIVES-COATINGS SEALERS

MADE IN U.S.A. by MINNESOTA MINING & MFG. CO., ADHESIVES AND COATINGS DIV., 411 Piquette Ave., Detroit 2, Mich. Also makers of "Scotch" Brand Pressure-sensitive Tapes, "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety Walk" Non-slip Surfacing, "3M" Abrasives. General Offices: St. Paul 6, Minn. General Export: Thew Abrasives Corp., New Rochelle, N. Y. In Canada: Canadian Thew Abrasives, Ltd., Brantford, Ontario.

▼ DIRECT—Identify by IEN-10997 if you write the maker ▼

1=7

One Jomac glove outwears seven ordinary work gloves.

Now more than ever before you need the best in gloves to speed production.

Jomacs are
Washable
Cut-Resistant
Flexible
Heat-Resistant
Reversible
Don't Snag or Tear

JOMAC WORK GLOVES
C. WALKER JONES CO.
6135 N. Lambert St. Philadelphia 38, Pa.

▼ DIRECT—Identify by IEN-10998 if you write the maker ▼

Fitted for Every Job Need

DIPPED NEOPRENE INDUSTRIAL GLOVES

SAFE—They can help prevent costly accidents. The exact surface begets unique positive easy gripping. And Neoprene withstands acetones, oils, greases and corrosive chemicals.

COMFORTABLE—The curved finger construction conforms to the natural curve of hand—eliminates creasing and pulling. Highly flexible, they permit easy, natural working motions.

ECONOMICAL—They are built for long wear and touch service. Full range of sizes, lengths and weights. U. S. technical men will be glad to analyze your glove needs and recommend the correct glove for each of your jobs. Available from your nearest United States Rubber Company Branch.

U. S. INDUSTRIAL GLOVES

UNITED STATES RUBBER COMPANY

▼ DIRECT—Identify by IEN-11000 if you write the maker ▼

CLEANING . . Vacuum-blower equipment with machine hood and accessories

Source: LEHARA SALES CORP.
485 Fifth Ave., 6th Floor, New York 17, N. Y.

New combination of a Delta vacuum-cleaning machine and a portable vacuum with the required hose lines and a machine-covering hood provides for dust free cleaning in a plant. The equipment is suited particularly for machine operations, welding equipment and for elevator hoods, hood vents, and vents.

The hood is fabric with neoprene coating inside and out. Fitting appears openings are formed into the hood area. Any one can be opened to permit the application of the vacuum machine. Any other provides elements of the hose from the portable blower. The hose then comes out of the covered equipment and the vacuum machine picks it up. Suction ratios is 20 cfm. The company also supplies complete equipment including all of the parts and accessories.

▼ DIRECT—Identify by IEN-11001 if you write the maker ▼

HOSE . . Yarn braided plastic developed to handle hot spray lacquers

Source: RESISTOFLEX CORP.
37-41 Plansoen St., Belleville 9, N. J.

Four sizes are ¼ to ½ inch

Compar plastic is the material proposed to the more tube of a new hose to handle hot spray lacquers. The tube is reinforced with yarn braid inside a synthetic cover that is mixed to a cold steel. The inner tube is not softened by working or contact with aromatic hydrocarbons, ketones, esters, and chlorinated solvents in standard service.

▼ DIRECT—Identify by IEN-11002 if you write the maker ▼

CONVEYING . . Portable belt unit with fabric or metal cleated belt

Source: MAY-FRAN ENGINEERING CO.
1694 Clarkstone Road, Cleveland 12, Ohio

Little Hustler trade name now portable conveyor in which the trough element is mounted on a caster-equipped stand for vertical positioning in a 50-in. range and for angle setting in any amount to 45 degrees. Five lengths are 4 to 12 feet. The belt measures 12 to 24 in. in width in three steps. Equipment includes a charging chute. Operation can be specified on 110 or 220 volt 60-cycle ac power supply.

All Makes of Them And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 56

▼ DIRECT—Identify by IEN-11003 if you write the maker ▼

For Every Industrial Need!

VACO

BREAK-PROOF
SHOCK-PROOF
Screw Drivers

FS-3A FLASHLIGHT DRIVER

UL

Fire Safe Handles
Vaco S-R handles are designed to resist fire hazards. You'll like their "feel" as well as safety features.

Large or small, square shank or round, extra long or stubby, there IS a Vaco screw driver for every screw used in your plant. Whether it's a regular, Phillips, Reed and Prince, screw holding, clutch head or Allen bit, Vaco makes one all. To find out how Vaco can serve you, write for

FREE 30-Page Catalog

A gold mine of information on all types of drivers, both screw and nut. Full of tables to fit the screw driver to the screw. Fully illustrated with drawings of most screw heads, photographs of drivers and tools, product charts of kits and specialty items. Order your copy today.

VACO PRODUCTS CO. 317 E. Ontario St., Chicago 11
In Canada: Vaco Lyon Products Co., Ltd., 1212 Notre Dame St. W., Montreal 3, Quebec

MORE THAN 250 TYPES AND SIZES

▼ DIRECT—Identify by IEN-11004 if you write the maker ▼

Shingle manufacturer eliminates strap breakage problem

● When an Eastern asphalt shingle manufacturer replaced his pneumatic wire conveyors with Cyclone Fence metal belts, the loss of shingles on the way to the firing machines was reduced and the upkeep of each was controlled. Since Southern is a Western producer, new conveyor construction was immediately considered.

There are three types of Cyclone Conveyor Belts: Chain Link, Flat Wire or Flex-Link—available in a wide range of metals, alloys, finishes, mesh and sizes. The engineers will help you select the belt best suited to your operating conditions. Get in touch with your Sources sales office and write for our free catalog #1.

CYCLONE FENCE DIVISION
American Steel & Wire Company
DEPT. C-110, WAUKEGAN, ILL.
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

CYCLONE METAL CONVEYOR BELTS
UNITED STATES STEEL

▼ DIRECT—Identify by IEN-11005 if you write the maker ▼

A Billion revs/year at 30 hp?

That's duck soup to either of these 5" reducers—just like 100 hp at 1750 or 65 hp at 580 is to similar 8" models. That's what they're for: **continuous heavy loads.**

There's nothing special about them. Both are standard stock models. One (right) is fan cooled, the other (above) water cooled. But BOTH have Cone-Drive double enveloping gearing. That's what gives them their stamina, their ability to carry big loads continuously, their outstanding shock resistance, their compactness and their **amazing low cost per horsepower.**

Ask for data sheets, pick your size and rate and get a quote. You have a real surprise coming.

CONE-DRIVE GEARS

▼ DIRECT—Identify by IEN-11006 if you write the maker ▼

Protect equipment against wear, corrosion, acids with RUBEROID RAPID ASPHALT PAINT

Check these advantages for durable, economical protection of surfaces exposed to wear, weather and chemical attack:

1. High resistance to acid and alkali.
2. Excellent electrical insulating qualities.
3. Withstands temperatures up to 212°F.
4. Prevents corrosion, rot, rust.
5. Highly penetrant—preserves wood.
6. Tasteless . . . odorless when dry.

The RUBEROID Co. Executive Offices: 500 Fifth Ave., N. Y. 18, N. Y.

MANUFACTURERS OF BUILDING MATERIALS

▼ BREVITY—Ideally by IEN-11007 if you write the maker ▼

From Muddle to Miracle

Components like the above chassis used to be produced by several cutting, drilling and forming operations, but now some manufacturers either them from Quadriga ready-made. This is a cost-cutting step as the pre-fabricated part needs only to be inserted in the product. A miracle of speed in rivets, and expenses are lower.

★ Assembly is often simplified with Quadriga special washers, too. The above washer, for instance, secures a mounting bolt and also serves as a connecting point . . . thus saving parts. Quadriga stampings and washers are made to your specifications. Stamping press range is 100 tons, depth of draw 8". Ask for catalog.

Quadriga Special Stampings and Washers

THE QUADRIGA MANUFACTURING CO.

215A West Grand Avenue Chicago 10, Ill.

▼ BREVITY—Ideally by IEN-11008 if you write the maker ▼

TWO WAYS WE CAN HELP YOU!

1. Cut your Designing Cost
2. Cut your Tooling Cost

1. A complete set of Tracing Templates is available on Morton Standardized Fixture Details. Select the Clamp that fits your need . . . trace it into your design.

2. Largest assortment of Clamps in the business. You'll find a Morton Clamp to do your job. Save valuable fixture designing time. Standardize with Morton.

Write today for FREE Morton Catalog, including complete set of Morton Clamp Tracing Templates.

MORTON MACHINE WORKS
2431 Wolcott St. Detroit 20, Michigan

MORTON
"Get More with Morton"

Fixture Clamps
and Standard Fixture Details

▼ BREVITY—Ideally by IEN-11009 if you write the maker ▼

NEW tool room FURNACE

Absolute Temperature Control to 850°F by DESPATCH

SIZES from 13 x 13 x 13 to 37 x 25 x 37

For Tempering, Drawing, Annealing, Solution Heat Treating

Designed for tool room or metallurgical laboratory work, this modern, streamlined DESPATCH furnace is rugged, uniform and flexible. Occupies no all space, is easy to operate and great flow construction heat provides absolute temperature control throughout work chamber. All working parts are closed in attractive four length cabinet with fully insulated hinged door providing new convenences for all types of heat treating. Available in either electric or gas models.

Write today for Bulletin 617

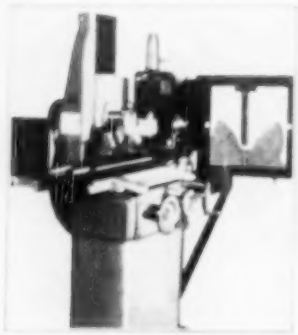
Minneapolis Office: 819 S. E. 4th St.
Chicago Office: 1070 N. Clark St.

DESPATCH OVEN COMPANY

▼ BREVITY—Ideally by IEN-11010 if you write the maker ▼

GRINDING . . Profile machine works to image projected on screen

Source: CLEVELAND GRINDING MACHINE CO.
6512-16 St. Clair Ave., Cleveland 3, Ohio



Visual Grind (trade name) uses new combination of grinding machine and optical equipment at which the operator manipulates handwheels to grind a precise contour while he watches the action in a magnified image of work and grinding wheel on an 18 by 18-in. screen. The machine has capacity for work to 6 by 16 by 8 in. based on a 7-in. wheel. Four image magnifications are between 21½ and 100 to 1. Required floor space measures 50 by 111 inches.

The optical equipment permits the use of any of three setups known as image grinding, profile projection and template technique. The first projects the exact magnified image of the face of the work and the outline of the wheel on the screen for grinding to conform to its scribed contour on the screen. This is for work in which rear sections are larger than face sections. The second projects the work contour in cases where it is uniform from face to rear as in form tools, die sections. The third is for wide contours at magnifications too large to be scribed on the screen. In this case a polished precision template is secured to the face of the work and images of both the work and the template are projected.

Bulletin, 6 pages, "Visual Grind", presents illustrated description of application and operation of the machine for each of its three setups. Major specifications are included.

▼ BREVITY—Ideally by IEN-11011 if you write the maker ▼

PRESS . . Hydraulic machine forms laminated plastic products

Source: BEATTY MACHINE & MFG. CO.
Oak & 150th St., Hammond, Ind.

Automatic cycle including rapid approach, slow-down to pressing speed, dwell for curing and rapid return to "up" position is actuated by depressing an electric pushbutton on this new press. A selector switch is added for inching operations as in tool setting and tryout. Cams can be set to govern change between the cycle steps for given work. A timer limits the curing action in an interval between 2 seconds and 20 minutes maximum.

The press rates 75 ton and has clear platen area measuring 36 by 42 inches. Stroke length is 30 inches. Minimum die space is 30 inches. Rapid approach and return are at 250 ipm. and power speed is 1 to 11½ inches per minute. The press can be equipped to ratings to 500 ton.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 38

▼ BREVITY—Ideally by IEN-11012 if you write the maker ▼

Streamlined-
AIN'T SHE?

Not rugged, very rugged . . . and she can be driven with a Motor, Turbine or V-Belt! Efficient, versatile and the power that you would expect for a product of this kind.

WRITE FOR BULLETIN 282 TODAY

SIZES: 1", 1½", 2", 3"
CAPACITIES: 3 to 450 G. P. M.
HEADS: 15 to 500 feet
MOTORS: 1750 and 3500 RPM, ¼ to 40 horsepower
MATERIALS: Standard, All Iron, All Bronze, or special to meet unusual requirements

WARREN PUMPS

WARREN STEAM PUMP COMPANY, INC.
60 Bridge Avenue Warren, Massachusetts

▼ BREVITY—Ideally by IEN-11013 if you write the maker ▼

FOR A *Complete* QUALITY "FASTENER TEAM" USE LAMSON NUTS!

It takes two to complete a "fastener team" . . . a bolt and a nut. Quality bolts deserve the plus values found in Lamson nuts . . . the accurate fit and dependable holding power.

Lamson makes many different types of nuts in hundreds of shapes, styles and sizes . . . a nut for almost every purpose.

Whether you need standards or specials, in plain, plated or stainless steel—in brass, bronze or aluminum, Lamson makes them all.

Think of Lamson nuts when you buy bolts . . . and buy both!

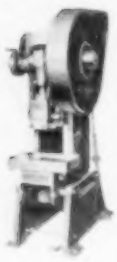
THE LAMSON & SESSIONS COMPANY

Lamson & Sessions

▼ BREVITY—Ideally by IEN-11014 if you write the maker ▼

OBI NOW... Presses by CLEARING

Now you can get, in open back, inclinable presses of 30 tons capacity and larger, the same advanced engineering and modern construction principles which have made large Clearing presses the overwhelming choice of costwise production men.



Frames are steel weldments—pioneered by Clearing in the press field—to give these O.B.I. presses greater rigidity, which means more precise operation and longer life for your dies. The swing leg pedestal clutch or the pack-engine pneumatic clutch option at no more models mean quick, trouble-free action.

Send for your free copy of Bulletin 311 for details about this new line of presses.

CLEARING MACHINE CORPORATION

6499 W. 65th Street ★ Chicago 38, Ill.

▼ BREVITY—Identify by IEN-11016 if you write the maker ▼

▼ BREVITY—Identify by IEN-11017 if you write the maker ▼

Adjustable

DRUM ROLLERS

MIX IN SUPPLIERS' DRUMS

- Quick
- Effective
- Economical

DRUM ROLLERS

"U. S." drum rollers are made in sizes to accommodate 1, 2, 3, or 4 standard 55-gal. drums. Easily adjusted to fit any other size barrel or drum. Standard revolving speed 144 RPM. Special machines can be made to order with any specified desired RPM.

Write for catalog pages 112-115

U. S. STONEWARE
Process Equipment Division
AKRON 9, OHIO

▼ BREVITY—Identify by IEN-11018 if you write the maker ▼

For Heating Or Cooling Revolving Shafts or Drums

ROTARY UNIONS*

The low friction drag, positive sealing, and long and trouble-free service provided by All Purpose Ball Bearing ROTARY UNIONS save power, labor, steam, gas, and condensate. They permit higher machine speeds and uninterrupted production.

ROTARY UNIONS require no complicated piping or brackets and eliminate repacking and constant adjustments.

There is a ROTARY UNION for every application. Expert engineering service is available at no obligation. Write for Catalog 500 I.

*Trade Name.

PERFECTING SERVICE COMPANY

▼ BREVITY—Identify by IEN-11019 if you write the maker ▼

TESTING . . Electronic amplifier, frequency from dc. to 1,000,000 cycles

Source: ELECTRO-MECHANICAL RESEARCH INC.
62-66 Main St., Ridgefield, Conn.

High gain, stability and linearity, large power output are features of this new Model 303 amplifier. It is provided with a servometer panel meter and an internal dc. calibrating voltage so it also can be used as a sensitive dc. voltmeter. Applications include use with oscilloscopes having unusable internal amplifiers for certain measurements, with recording equipment and with strain gages to provide signals that can be observed on an oscilloscope. Operation is on 115-volt 60-cycle ac.

▼ BREVITY—Identify by IEN-11020 if you write the maker ▼

SEALING . . Mastic material for tanks, pipe, castings, patterns

Source: H. K. PORTER INC.
48-52 Foley St., Somerville 43, Mass.

Packaged in a service kit

Fixx, trade name, mastic material that applies like putty, hardens to a clean metal surface, hardens to a metal-like consistency that can be ground, filed, sanded, polished and painted. The material was developed some years ago for use in repair work on motor vehicle bodies. The company makes it available now for general industrial use in caulking, filling, patching, resurfacing, sealing, waterproofing.

Associate materials are Fixx-fill to fill the material for cleaning and preparing a surface prior to application and Fixx-Fab to use as a filler and support in large depressions.

▼ BREVITY—Identify by IEN-11021 if you write the maker ▼

LUBRICATING . . Pressure dispensers for oils and light or heavy greases

Source: STEWART-WARNER CORP.
1828 Diversey Parkway, Chicago 14, Ill.

Model 7170-R, to the left in the illustration, and Model 7175-R are two new motor driven lubricant dispensers rating 20 and 40 lb. respectively. The former will deliver 14 oz. of light or medium oil or level working grease per min. at 70 deg. F. It will develop pressures to 5,000 pounds. The latter extra 5½ oz. of heavy fibrous lubricant per min. at 70 deg. F.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN-11022 if you write the maker ▼

▼ BREVITY—Identify by IEN-11023 if you write the maker ▼

TWO-JOB TOOLING ON ONE MULTIPRESS

Index table "skip-station" feature permits double-duty tooling, faster assembly work

A press with tooling located for two different working jobs? No, sir! Not just switching changes! Higher efficiency has been calculated and proven.

Here's the story: A 12-station Denison Index Table is swiped at every other station with holding fixtures for one assembly. Alternate stations are tooled for the other assembly. Two quick-change punches thread into the press ram.

Skip-station control cams cause the table to "handle" every other station. Production can be switched to either job quickly by simply moving the cams from one group of stations to the other.

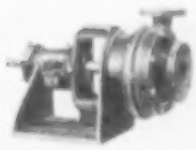
Indexing Tables and the Skip-Station Accessory are only two of many standard job specifying attachments Multipress offers in addition to fast quick, efficient, accurate. Capacities from one ton up through 75 tons. Method or automatic control. Check the advantages of Multipress. Write today.

DENISON Hydroil ics

The DENISON Engineering Co.
1150 Dublin Rd., Columbus 16, O.

▼ BREVITY—Identify by IEN-11024 if you write the maker ▼

YOUR "Just-Right" PUMP



CN, frame-mounted, readily driven by any type of power

is among these 10,000 combinations

No more compromising with a pump that isn't *just right* for the job.

From Worthington's vast selection of standard centrifugal pumps—you're sure to find the one that meets your specifications exactly.

No other line of pumps is so complete—capacities from 10 to 1800 gpm, heads to 535 ft, 40 sizes of casings, 200 combinations of frame-mounted designs—10,000 combinations in all!

See Your Worthington Distributor

WORTHINGTON

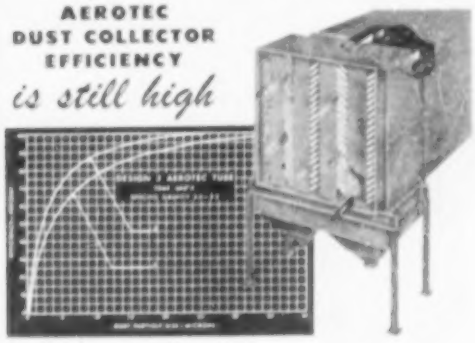
Worthington Pump and Machinery Corporation, Pump and Compressor Merchandising Division, Harrison, New Jersey

The Good Right Hand of Industry

▼ BREVITY—Identify by IEN-11025 if you write the maker ▼

ON *Full* OR *Partial* LOADS

AEROTEC DUST COLLECTOR EFFICIENCY *is still high*



Keeping efficiency high on a fan system based load is important in dust collection. The Aerotec Design 10-11 Collector has proved this problem in the use of small diameter units.

It will be seen from the curve that 2.5 w.g. efficiency, on the system, particles, at full load, is 99%. Reducing the load to 0.5 w.g. consistent on full load, the Aerotec 1 offers not only preserves its efficiency of 99.5%, simply as more dust does not enter requirements demanded.

These small 10 inches tubes also provide a compact unit that will be convenient for space requirements.

Product and Sales Engineers

THE THERMIX CORPORATION
GREENWICH, CONN.

Offices in principal cities

THE AEROTEC CORPORATION
GREENWICH, CONNECTICUT

▼ BREVITY—Identify by IEN-11026 if you write the maker ▼

▼ BREVITY—Identify by IEN-11027 if you write the maker ▼

New! . . . Smaller Size . . . Same Power Output . . . Bigger Value!

SYNCHRON TIMING MOTOR

Newly designed —to cut costs in timing devices of all kinds

Motor has slow speed of 600 R.P.M. Light weight rotor with aluminum spider of large diameter synchronizes instantly at 1/12th revolution. Compact . . . only 1-7/8 in. x 1-5/8 in. Pulls 6 oz. direct load at 1 R.P.M. Self-lubricating. Operates efficiently in any position, any required speed—110 or 220 Volts. Available as single motors, or with gear trains as complete timing machines and clock movements.

If you make or repair timing devices of any kind—get the facts regarding this motor, and get our prices.

HANSEN MANUFACTURING CO., INC.
Princeton 2, Indiana
Established 1901—A Pioneer in Synchronous Motors
TIMING MOTORS • TIME MACHINES • CLOCK MOVEMENTS

▼ BREVITY—Identify by IEN-11028 if you write the maker ▼

RUBBER-TREADED!
Wears and grips like a tire

Grab-it
OUTWEARS 5 TO 10 PAIRS ORDINARY GLOVES

Tough Natural Rubber over palm and thumb. For outwears leather gloves.

Sure Grip: Rough, textured rubber tread grips sharp-edged, abrasive or slippery materials. Acts as equipment to wear in dry.

Strong Fabric Lining and back — comfortable as a canvas glove. Easy laundering.

Easy To Slip On Or Off: Safety cuff generous as crossed — rubber coated palm or non-palm wrist-length styles.

FREE TEST OFFER: Write for complete details and the name of the nearest dealer who can supply you with the Grab-it. If no dealer handles the Grab-it, we will send a pair direct, postpaid, upon receipt of your check or money order for $1.50 (Canada $1.75). Specify whether palm or non-palm wrist-length gloves.

Edmont Mfg. Co., 518 Orange St.
Coshocton, Ohio
Manufacturers of rubber industrial gloves

▼ BREVITY—Identify by IEN-11029 if you write the maker ▼

DUST COLLECTING . . Electrostatic unit for a vertical air conditioning duct

Source: WESTINGHOUSE ELECTRIC CORP.
202 Readville St., Boston 36, Mass.

New assembly [illegible] for vertical installation of dust collector and factory air. Charge the dust particles and collection cells to remove from from the air stream is served by a separate power pack in this new Precipitron dust collector. The elements can be arranged for air flow in a vertical direction as are a cell unit is water-tight assembly, assured. Housing [illegible] a section 1 ft. x 1 ft. from about 1,200 to 4,000. Use in a number of [illegible] 90 per cent cleaning efficiency. The element section is 30 lb. in weight for an about. Width is 28½ to 47½ inches. Depth is 23½ to 47½ inches.

Bulletin 93-815, 8 pages. Specifications and data. On the installation and operation, precision drawings to show typical installations with numbering of duct, wall, ceiling, floor, power information, an each of the operating components and a list of accessories of the parts required for the complete.

▼ BREVITY—Identify by IEN-11030 if you write the maker ▼

CONTROL . . Liquid level unit for tanks handling conductive liquids

Source: PHOTOSWITCH INC.
75-79 Broadway, Cambridge 42, Mass.

Weather proof housing has been added to the company's liquid level control equipment, recently launched. [illegible] an electrode, can be used in exposed locations. The unit [illegible] is protected by an [illegible] a water-tight wiring base [illegible] the electrode housing. The unit [illegible] is known as Type PS-[illegible] and [illegible].

Two probes are mounted in a bracket to apply it to the tank or [illegible] to fit the application. The probes connect to the control housing by a [illegible] cable. The relay is [illegible] mounted. Three contacts rating 2 amp. on 110-[illegible] are. Three contacts open and close the control circuit leading through suitable equipment to a pump or power operated valve.

Application can be made in conjunction with resistance to 3,500 ohms. The unit will distinguish between saturated atmosphere in a tank and the liquid as well as between liquid and foam.

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30

FIND WHAT YOU WANT?
Try the suggested procedure in the index, page 710

▼ BREVITY—Identify by IEN-11031 if you write the maker ▼

NEW ELWELL-PARKER Fork Truck

Model F-30T
4000 lbs. Capacity
48" Load

GREATER LIFT—Total [illegible] 10" [illegible] 10.66".

FASTER LIFT—25 f.p.m. with full load; 42 f.p.m. without load.

AMPLE TILTING ANGLE—5° forward, 12° backward for greater load stability turning corners.

LOW HYDRAULIC PRESSURE—1000 p.s.i.—less chance of leakage.

CUSHION TIRES—Smooth rides, sure traction, no punctures.

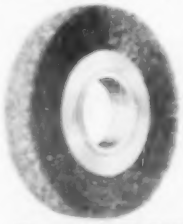
EASY TO OPERATE—Automotive controls. Entry to control either side. Good vision. Hydraulic brakes.

CLASS B ELECTRIC MOTOR—T.E.F. built—practically incombustible and fireproof.

Send for Illustrated Bulletin

THE ELWELL-PARKER ELECTRIC COMPANY
4016 St. Clair Ave. Cleveland 3, Ohio

▼ BREVITY—Identify by IEN-11032 if you write the maker ▼



ROTARY INDUSTRIAL BRUSHES

Let "PITTSBURGH" solve your brush problems

Modern production calls for rotary power-driven brushes for processing most metal and plastic surfaces, and the right brush means *better quality work . . increased production, lower costs.*

Our skilled brush engineers will design and build power-driven brushes to meet your particular requirements. Or, you may find what you need in the regular Pittsburgh line, because there's a Pittsburgh brush for every industrial use.

See your Supplier or contact PITTSBURGH PLATE GLASS COMPANY, Brush Div., Dept. M-5, 3211 Frederick Ave., Baltimore 29, Maryland.

PITTSBURGH *Power Driven* BRUSHES

BRUSHES • PAINT • GLASS • CHEMICALS • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

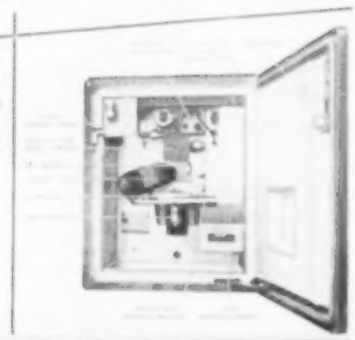
▼ BREVITY—Identify by IEN-11033 if you write the maker ▼

Proved accurate in many fields

HAYS *Magno-Therm* OXYGEN ANALYZER

Operating on an entirely new principle, based on the paramagnetic property of oxygen, the Hays Oxygen Analyzer has proved itself in industrial oxygen and combustion control, and dependability. It has been tested under conditions of extreme severity, in all types of [illegible] where in the chemical field for determining O₂ and CO₂ for making gas, measuring and controlling combustion efficiency in boiler rooms.

For the complete story, send for Bulletin 49-B29.



The HAYS CORPORATION
Since 1907 COMBUSTION & INDUSTRIAL INSTRUMENTS & CONTROL
MICHIGAN CITY, INDIANA, U.S.A.

▼ BREVITY—Identify by IEN-11034 if you write the maker ▼

Pumps Liquids with
no contamination
no corrosion
— the new
SIGMAMOTOR

SIGMAMOTOR provides an inexpensive laboratory method of moving fluids without contamination or adverse effects of corrosion. Operates by the pressure of a series of "fingers" in flexible tubing—avoids high cost of stainless steel, rubber, or glass coating. Designed to pump liquids or gases. SIGMAMOTOR can readily handle solids in the solution. Wide range of flow rates (1½ to 30 gals. per hour) without speed changes. Easily installed; can be quickly changed to take care of different fluids.

Send today for complete details about this efficient new SIGMAMOTOR pumping unit.

SIGMAMOTOR can be used advantageously in the following applications:
- For corrosive liquids
- Where solids exist in solution
- For extremely small quantities of a liquid
- For obtaining proportionate flows of two or more liquids
- For gases
- For sanitation

E. & M. ENTERPRISES, INC.
6 Vernon Street - Middleport, New York

▼ IEN-11035 ▼

ALL PEERLESS MOTORS ARE "Peerless Registered"

MORE than 95% of all Peerless Motors are custom manufactured to meet the specific operating requirements of the equipment with which they are to be used. So we "Peerless Register" every motor before shipment. The words "Peerless Registered" are a trademark, recorded in the U.S. Patent office. Only Peerless Motors can bear this phrase, and only Peerless Motors offer you this protection. This registration record is assurance to both you and your customer that the Peerless Motor has been properly designed for your equipment so as to give best possible performance and long, satisfactory service. And the registration record makes possible the quick identification of any Peerless Motor — anywhere.

THE PEERLESS ELECTRIC CO., WARREN, OHIO

Manufacturers of Quality Motors Since 1893

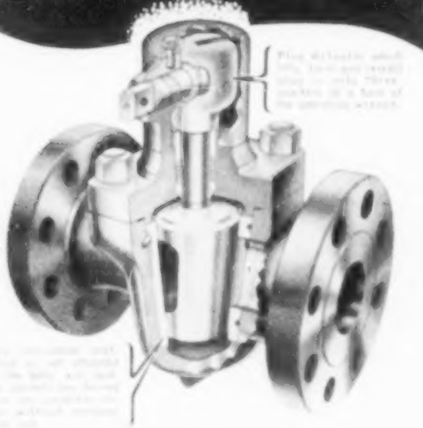
Single Phase • Polyphase • Direct Current • ½ to 15 H.P.

Peerless Electric MOTORS-FANS-BLOWERS

▼ IEN-11036 ▼

ELIMINATE VALVE LUBRICATION EXPENSE AND BOTHER

Cameron NON-LUBRICATED LIFT-PLUG VALVE



The Best Features of Plug and Gate Valves Combined With New Cameron Innovations

NON-LUBRICATED — ... PRESSURE SEALING — ... UNIQUE LIFT-PLUG ACTUATOR — ... RENEWABLE SEAT AND PLUG — ... REPAIRS ON THE JOB — ... EASY OPERATION — ... FORGED STEEL — ...

Cameron IRON WORKS, INC.

P. O. BOX 1212 • HOUSTON, TEXAS

EXPORT: 74 TRINITY PLACE, NEW YORK, N. Y.

▼ IEN-11038 ▼

VENTILATING . . Exhaust blower mounts in wall or on roof of a building

Source: JENN AIR PRODUCTS CO.
407-11 Architects & Builders Bldg., Indianapolis 4, Ind.

A baffle plate ...

Five sizes ...

▼ IEN-11039 ▼

SEALING . . Electric iron for labels and heat sealing materials

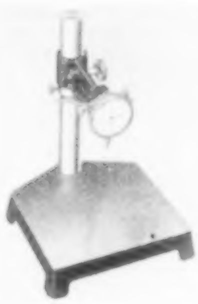
Source: SEAL INC.
133 Brook St., Shelton, Conn.

Sealector ...

▼ IEN-11040 ▼

GAGE . . Dial type comparator reads over and under a set dimension

Source: L. S. STARRETT CO.
100 Starrett St., Athol, Mass.



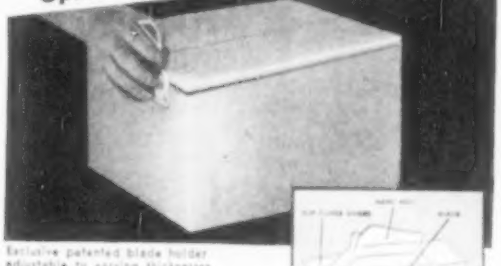
Dial indicator ...

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER ... Descriptions ... Ratings ... See Page 38

▼ IEN-11041 ▼

Amazing FLASH BOX OPENER

Opens Any Carton Quicker . . . Cleaner



Exclusive patented blade holder adjustable to varying thicknesses of carton covers.

THE ONLY CARTON OPENER THAT GIVES YOU ALL THESE ADVANTAGES:

Penetrates exactly under the outer cover thickness • Protects contents of carton • Cuts clearly to permit re-use • Prevents accidents • Saves time • Eliminates fatigue. *Already accepted by leading industries.*

Retail Price $1.75

FLASH BOX OPENER CO., Inc.
52 W. Houston St. • New York 12, N. Y.

▼ IEN-11042 ▼

Heat control problem that defeated other thermostats

solved by Thermoswitch unit

FENWAL INCORPORATED

Temperature Control Engineers

Fenwal

APPLIANCE-TYPE THERMOSWITCH

SENSITIVE ... *but only to heat*

▼ IEN-11043 ▼

Action too fast to see can be studied here over and over again

You can photograph mechanical motion or fluid flow with the Kodak High Speed Camera, taking up to 3200 pictures a second on 16mm. movie film. When the film is projected at regular speed, you can watch the motion slowed down 200 times.

Seeing the dynamic facts in "slow motion"—whenever and wherever you want to show them—brings quick answers to design and processing problems. Send for the booklet, "Magnifying Time." Eastman Kodak Company, Industrial Photographic Division, Rochester 4, N. Y.

the Kodak High Speed Camera

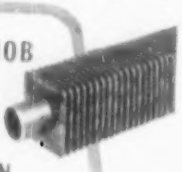
Kodak

▼ BREEFITT—Identify by IEN-11045 if you write the maker ▼

GREENLEE HAND BENDERS...for making small-radius bends in pipe, tubing, conduit.

▼ BREEFITT—Identify by IEN-11046 if you write the maker ▼

SAVE TIME ON THE JOB WITH VULCAN FIN-TUBE RADIATION



Vulcan saves time and money because it is easy to install:

- Comes cut to specified lengths
- Fully threaded or chamfered for welding
- Is light in weight, easy to handle
- Easily cut to desired length on the job where necessary
- Sturdy construction — no danger of loosening fins because fins are imbedded by special Vulcan process

For either steam or forced hot water. Next growing covers and accessories. Send for illustrated bulletins.

FOR 80 YEARS A LEADER IN FIN-TUBE RADIATION

THE VULCAN RADIATOR CO.
26 FRANCIS AVENUE, HARTFORD 6, CONN.

▼ BREEFITT—Identify by IEN-11047 if you write the maker ▼

ACCURATE CO_2 Analysis in 40 Seconds!

Two sighting buttons in the FYRITE CO_2 indicator give it double "non-drift" verification and simplified computation of percentage — regardless of rolling oil, kiln or solvent or storing bottle to manipulate.

The FYRITE measures CO_2 directly by the Orsat-Muller method of chemical absorption. Consequently the reading is independent of variations in humidity, temperature or atmospheric pressure constants.

Comes complete with chemical charge good for at least 100 readings. Replacing chemical merely requires removing four screws that hold the assembly in place.

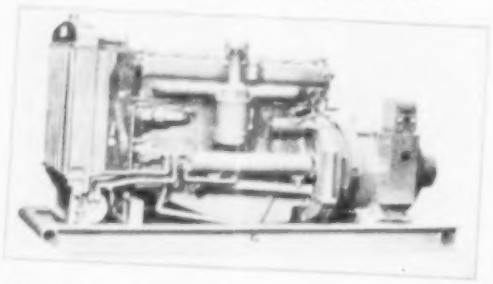
Write For Bulletin 7-O

BACHARACH Industrial Instrument Company
7000 Bennett Street · Pittsburgh 8, Pa.

▼ BREEFITT—Identify by IEN-11048 if you write the maker ▼

GENERATOR . . Engine driven assembly, 60 to 133 kw., specified standard ac.

Source: MURPHY DIESEL CO.
5215-19 W. Burnham St., Milwaukee 14, Wis.



New sizes have been added to the company's line of engine driven generators to include sixteen sizes. They rate 60 to 122 kw. with a radiator-cooled engine, 65 to 133 kw. when the engine is equipped with a water-cooling heat exchanger. All engine the company's key-or-wind-injection diesel engine and Electric Machinery generators and exciters or their equivalent. The engine is coupled to the generator and the assembly is completed on a skid mounting.

Standard equipment includes a 24-volt starting motor charging generator and voltage regulator. Operation is controlled by a voltage-actuated hydraulic servo-type governor in which intermittent pressure operates the injector control rods for immediate response to load fluctuation. The governor shuts the engine off in the event that oil pressure falls below a set point.

Overall dimensions are about 120 to 147 in. in skid length, 43 in. in width, 66 to 70 in. in height. Operating speed is 1,200 rpm. on which the states ratings are based.

▼ BREEFITT—Identify by IEN-11049 if you write the maker ▼

REFRACTORY . . Double hung arch for rectangular or circular furnaces

Source: GEO. P. REINTJES CO.
2515-21 Jefferson St., Kansas City 6, Mo.

New design of the company's Pendulum Hung arch starts with an overhead structure from which steel tubes are supported by U-bolts at suitable intervals. Horseshoe clips, also made of steel, hang on the tubes and engage locked or "shoe horse" tiles made of a strong refractory. These tiles carry locking lips so that two hooks exist to engage the main arch face of the furnace.

The lip shape permits placing the lower tile without need for any other support as the arch is constructed and makes each row an independent "pendulum hung" unit. The refractories in the lower tile can be specified to meet given furnace conditions as required.

Two shapes of tile will build any ordinary flat furnace roof. An additional shape is required for a fan-tail nosing. Six shapes will make a circular soaking pit roof cover of any diameter. The company supplies the correct tile and accessory parts for field erection on any specified furnace.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

▼ BREEFITT—Identify by IEN-11050 if you write the maker ▼

EMERITE FLOORS

RESISTS ABRASION

RESISTS HIGH HEAT

. . . the most permanent FLOORING known to INDUSTRY

Flash-Stone EMERITE FLOORING is the only complete Emery Stone concrete assembly-package in the entire field. Equally suited for restoration of old concrete floors or new constructions. Recommended for areas subjected to pounding contacts or aggressive agents.

WRITE FOR INFORMATIVE LITERATURE

FLASH-STONE COMPANY, INC.
ERIE AND PULASKI AVES., PHILA. 40, PA.

▼ BREEFITT—Identify by IEN-11051 if you write the maker ▼

LOOK at these NEW LOW PRICES

[illegible] $1.20
[illegible] $1.45
[illegible] $2.50
[illegible] $2.70

for HONEYWELL Heavy-duty MERCURY SWITCHES

Prices are net to manufacturers for quantities of 100 and up. Type numbers ending in "B" are without leads . . . numbers ending in "L" include 7-inch, double cotton covered, extra flexible leads.

Write for complete engineering specifications . . . or for immediate action, call the Honeywell branch office nearest you.

MINNEAPOLIS-HONEYWELL REGULATOR CO., Industrial Division, 4746 Wayne Ave., Phila. 44, Pa. Offices in more than 50 principal cities of the United States, Canada and throughout the world.

Honeywell MERCURY SWITCHES

▼ BREEFITT—Identify by IEN-11052 if you write the maker ▼

Utensil Manufacturer Solves Rust Problem with ALCOA ALUMINUM FASTENERS

To make a good product better—you can't go wrong with Alcoa Aluminum Fasteners. Take the case of the utensils made by the Mardigian Corporation, whose aluminum utensils were excellent except that plated fasteners in the handle assembly rusted in use. Mardigian eliminated all rust problems by switching to Alcoa Aluminum Fasteners—lowest cost corrosion-resistant fasteners they—or you—can buy.

WRITE FOR FREE SAMPLES

Why not see how lustrous Alcoa Aluminum Fasteners can help dress up your product and eliminate corrosion problems? Simply write on your letterhead, specify the types and sizes you're interested in, and we'll send you the samples by return mail. Write to ALUMINUM COMPANY OF AMERICA, 2137L Gulf Bldg., Pittsburgh 19, Pa.

THE LOWEST-COST CORROSION-RESISTANT FASTENERS ARE

ALCOA Aluminum FASTENERS

▼ BREVITY—Identify by IEN-11054 if you write the maker ▼

ELIMINATE COSTLY FLOW FAILURES with MAGNATROL SOLENOID VALVES

- Quick Operating
- Non-Sticking
- Tight Sealing

These three design advantages are your assurance against costly flow failures. Attain dependable, accurate, automatic or remote control of liquids or gases with Magnatrol valves. You can install them quickly and easily in connection with ... flowmeters, thermostats, float and time switches. Every Magnatrol Valve is delivered to you—factory tested and guaranteed free from defects in material and workmanship.

Available in normally closed or normally open models. Pressure ranges from zero up to 500 PSI. A.C. to 575 volts, 25, 50 or 60 cycles. D.C. to 250 volts.

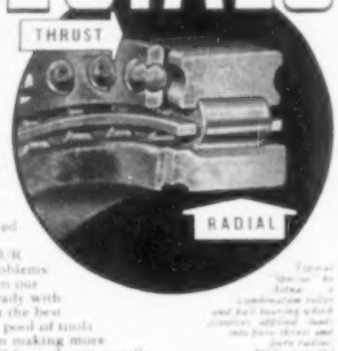
FREE CATALOG!

Write today. Attention of E. W. Eiseman, for complete illustrated literature containing specifications, sizes and dimensions.

MAGNATROL VALVE corp.
HAWTHORNE 5, NEW JERSEY

▼ BREVITY—Identify by IEN-11055 if you write the maker ▼

SPECIALS



For more than 3 decades Aetna has specialized in solving the sort of bearing problems that "couldn't be solved." As a result, manufacturers have realized startling economies or licked tough merchandising problems that stymied sales.

Tell us about YOUR "tough" bearing problems. Nine times out of ten our engineers will be ready with the best answers—at the best prices—for our vast pool of tools and dies, acquired in making more than 2000 "specials" for industry, usually enables us to meet unique requirements without the expense of new tooling.

Typical "Special" by Aetna—a combination roller and ball bearing which converts applied loads into pure thrust and pure radial. Application: Oil Drilling Crown and Traveling Blocks.

AETNA BALL AND ROLLER BEARING COMPANY 4600 SCHUBERT AVENUE CHICAGO 39, ILLINOIS

Aetna STANDARD AND SPECIAL BALL THRUST BEARINGS · ANGULAR CONTACT BALL BEARINGS · SPECIAL ROLLER BEARINGS · BALL RETAINERS · HARDENED AND GROUND WASHERS · SLEEVES · BUSHINGS

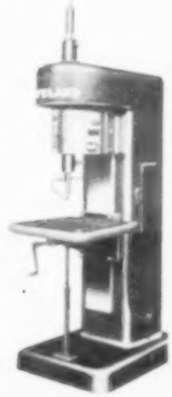
▼ BREVITY—Identify by IEN-11056 if you write the maker ▼

CLEVELAND tapping machines — lead screw

1530 Holes per Hour
Drilled · Chamfered · Tapped

Performed on a Cleveland Standard Model E-1 Lead Screw Controlled Tapping Machine equipped with a six spindle multiple head and automatic air operated index table.

Here in production for you ... 1530 holes per hour ... Drilled, Chamfered, and Tapped ... precision performance at high speed on a Standard Model E-1 Cleveland Tapping Machine. Lead screw controlled, of course, like all Cleveland machines. Equipped with a 6 spindle multiple head and an automatic air operated index table. You too can cut tapping costs in your plant with Cleveland Lead Screw Tapping Machines. For free suggestions submit your prints, specifications or sample parts and let Cleveland engineers show you how to save money on tapping, reaming, drilling, spot-facing, reaming, and chamfering operations.



MODEL E-1

Write today for "The Production Tapping Guide" and Catalog 282-Y-1.

THE CLEVELAND TAPPING MACHINE CO.
A Subsidiary of AUTOMATIC STEEL PRODUCTS, INC.
CANTON 6, OHIO

▼ BREVITY—Identify by IEN-11057 if you write the maker ▼

HOIST . . Motor driven trolley handles lug mounted electric hoist

Source: INDUSTRIAL EQUIPMENT CO.
313-17 N. Ada St., Chicago 7, Ill.

Moto-Trolley is a new assembly of traction motor, worm drive, ball-bearing wheels, assembly frame and pendant push-button control. There are four buttons in the control, two for the travel movement of the trolley and two for connection into the motor circuit of the hoist that is supplied by the user. This hoist can be any lug mounting design in 1-2 or 3-ton load rating for which there are three trolleys. Included in the electrical equipment is a transformer to provide 110 volts for the control circuit from 220 or 440 volt ac tapped from the trolley wires.

Operation can be specified on I-beam track ranging from 5 to 12 inches. The unit also will ride a flat beam if the track is bolted or welded in place so no space-taking clamps are required. The three trolley sizes employ a ½ to ¾ hp motor, weigh 161 to 214 pounds. List price is $825 to $866 without the current collectors and brackets which add $30 per set.

▼ BREVITY—Identify by IEN-11058 if you write the maker ▼

PUMP . . Motor driven centrifugal, internal parts are a replaceable unit

Source: DE LAVAL STEAM TURBINE CO.
851-55 Nottingham Way, Trenton 2, N. J.

Substituted
not submitted

Typographical error caused the omission in the first sentence of the description of the company's new centrifugal pump in IEN 8423(?). The sentence should have stated that unit replacement of the internal parts is made easier, not substituted, for repair of individual parts.

▼ BREVITY—Identify by IEN-11059 if you write the maker ▼

FEEDING . . Vibrator equipment for bulk materials, motor driven unit

Source: ROBINS CONVEYORS DIVISION
370 Lexington Ave., 18th Floor, New York 17, N. Y.

Vibra-Feeder is a new assembly of steel pan, spring and bracket support, eccentric ball-bearing shaft and belt-connected motor. Sizes range from 24 to 48 in. in width by 48 to 96 in. in length. The motor takes 1 to 2 hp for operation on 3 phase 60-cycle 220/440 volt ac.

Feed rate is set by the amount of incline in the pan, the capacity increasing by about 15 per cent for each 1-deg. of downward slope. Installation can be on a simple foundation or in suspension from overhead.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER ... Descriptions ... Ratings ... See Page 30

▼ BREVITY—Identify by IEN-11060 if you write the maker ▼

Test Abrasion Resistance
Taber **ABRASER** Model 140

New instrument to test wear resistance of fabrics, protective coatings, plating, plastics, rubber, etc.

Incorporates proven rotary rub-wear action of dual abrading wheels, simulating wear under actual service conditions.

Write for new literature.
TABER INSTRUMENT CORP.
107 Goundry Street
North Tonawanda, N. Y.

▼ BREVITY—Identify by IEN-11061 if you write the maker ▼

Free NEW G-E MAGNET WIRE DATA BOOK

Now for the first time in one complete manual

FORMEX® Magnet Wires · DELTABESTON® Magnet Wires

For jobs involving specifications and uses of magnet wire, you need this new General Electric magnet wire manual.

Packed with helpful, hard-to-get information, this 34-page book clearly and concisely covers all types of General Electric magnet wires—G-E Formex for Class A applications, temperatures up to 105 C, and G-E Deltabeston, both for Class B applications, temperatures up to 125 C, and for Class H applications, temperatures up to 180 C.

Here are just a few of the subjects covered by the G-E magnet wire manual:

- Properties of Formex and Deltabeston magnet wires
- Tables of types and sizes of stock magnet wires
- Application procedures
- Information on special glass and silicone-impregnated insulations
- Tables covering electrical specifications, dimensions, weight and other pertinent specification data

To get your copy of this fact-filled reference manual on General Electric magnet wires, write to Section W14-1142, Construction Materials Department, General Electric Company, Bridgeport 2, Connecticut.

GENERAL ELECTRIC

▼ BREVITY—Identify by IEN-11062 if you write the maker ▼

Extra Protection
AGAINST HIGH MOTOR COSTS

3 Great Protective Features!

- Heavy cast iron frame protects bearings, windings, rotor from corrosion, distortion, physical abuse.
- Ball bearings pre-lubricated at factory. Need no attention for years. Protected against inadequate maintenance.
- Multiply-dipped and multiple-baked stator plus new phase insulation protect against electrical breakdown.

GET FULL DETAILS on the extra-protective features of Safety-Circle motors. Ask your A-C Authorized Dealer or Sales Office or write for Bulletin 51B6210. Sizes 1 to 20 hp.

ALLIS-CHALMERS "Safety-Circle" DRIP-PROOF MOTORS

Safety-Circle is an Allis-Chalmers trademark

Allis-Chalmers, 909A So. 70 St., Milwaukee, Wis.

ALLIS-CHALMERS

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the amazing Crayons that tell temperatures

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WELDING
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FORGING
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STRAIGHTENING
HEAT TREATING
IN GENERAL

It's this simple:
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- Mark your workpiece with it.
- The Tempilstik° mark will liquefy as soon as its specified temperature is reached.

Also available in pellet and liquid form.

$2 each — good for up to 2000 readings

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COMPANY ____________
ADDRESS ____________

IEN-11064

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CHALLENGE
LAYOUT SURFACE PLATES

- Built to "stand the gaff" of hard service. True, smooth surfaces of special analysis semi-steel with heavy, deep ribs to prevent sagging and yielding under load.
- Standard plates 6" thick. 8" plates to order. Sizes 12"x18" to 84"x144". Large units can be made up by grouping and keying several standard units.
- Sold with or without sturdy, multi-legged arc-welded steel stand with lock leveling screws to allow quick leveling.

Write for Challenge Precision Equipment Catalog

THE CHALLENGE MACHINERY CO.
GRAND HAVEN MICHIGAN

IEN-11065

FREE BOOKLET

gives HELPFUL INFORMATION on

KINDORF
Hangers and Supports

for PIPE · CONDUIT · TUBING

This 92 page booklet contains the detailed information you'll want to know about the complete line of Kindorf hangers and supports. Each item in the line is completely described and is illustrated with a diagrammatic sketch and accompanying chart.

Also included in this comprehensive booklet are twelve pages devoted to such subjects as:

- Load Span Table for No. 100 Channel Assemblies
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- Standard & Large O.D. Pipe Data
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Please send me my free copy of the Kindorf Hanger and Support booklet.

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Company .....
Address .....
City ..... Zone ..... State .....

IEN-11067

TRUCK . . Engine driven fork lift rates 1 ton on 15 inch load center

Source: MOBILIFT CORP.
821-27 S.E. Main St., Portland 14, Oregon

Model E and Model EK [illegible]

The designs [illegible]

Model E [illegible]

Model EK [illegible]

IEN-11068

PRESS TOOLS . . Cutting board for application with steel rule dies

Source: RUBBER ENGINEERING & CHEMICAL CO.
50 Genesee St., Lake Zurich, Ill.

Plastic compound [illegible]

Standard sizes [illegible]

IEN-11069

HERE'S YOUR *Complete* STEAM PLANT

A complete steam plant backed by [illegible] responsibility • Shipped completely assembled • More than [illegible] thermal efficiency guaranteed • [illegible] design provides 5 sq. ft. of heating surface per h.p. • Built-in forced draft eliminates need of [illegible] chimney • Simple installation [illegible] quiet operation • Heavy [illegible] construction assures long-lived dependability • 12 sizes from 50 to 500 h.p. for pressures up to 250 [illegible] for hot water heating.

Superior STEAM GENERATORS

IEN-11070

Completely New!

An Entire Series of NEW, SMALL ROTARY SWITCHES By "Diamond H"

Series 240 Switches

30 Circuit Variations Now Available

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NO OTHER SWITCH WILL GIVE YOU ALL THESE LONG-WANTED FEATURES

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Write today for complete details on "Diamond H" Series 240 Switches for your applications.

THE HART MANUFACTURING COMPANY
203 Bartholomew Ave., Hartford, Conn.

IEN-11071

ASSOCIATED BAG & APRON CO.
2640 WEST BELDEN AVENUE • CHICAGO 47, ILLINOIS

IEN-11072

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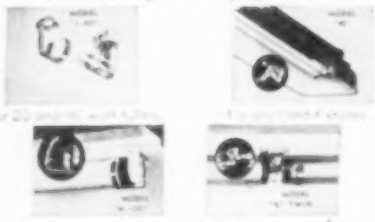
Den-El Lamp Guards insure against falling lamps, work interruptions, injuries, and material spoilage. Stainless steel for lasting good appearance. Special resilient stock allows them to be sprung aside for quick cleaning or relamping.



For 20 watt lamps — For 40 watt lamps
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IEN-11073

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With plants on both the East and West Coast we are able to ship wire cloth quick to all parts of the country with speed and economical service of supply. CAL-WIC wire cloth comes in thousands of different meshes, is available in many standard weaves, meshes and weights and in various metals and alloys. Write for illustrated descriptive catalog MS-601.

CAL-WIC
INDUSTRIAL SCREENS

IEN-11074

LIKE AN
ATOM-IC
EXPLOSION

Just ONE 1/32" pin-hole size faucet LEAK MUSHROOMS into ATOMIC WASTE of approximately 76,000 gallons of water yearly—COSTING:

$10.13
= $1 per M cubic feet

If a hot water faucet, then actual FUEL WASTED heating 76,000 gallons costs approximately:

$27.65 if coal (7,900 lbs.)
$38.00 if oil (633 gals.)
$50.63 if gas (67,500 cu. ft.)

STOP this needless WASTE during today's MATERIAL and MANPOWER shortages with SEXAUER "EASY-TITES" that outwear ordinary faucet washers 8 to 1, thus SAVING labor on 7 REPEAT repairs, PLUS water and fuel, while prolonging the life of SCARCE fixtures.

PAT'D. **"EASY-TITE"**
Faucet washers

. . . a modern laboratory invention, are compounded from du PONT NEOPRENE (natural of rubber) to withstand DESTRUCTIVE HEAT common in present-day super-heating water systems (that formerly broke down washer's structure, slanted to withstand 200°F.)

Built like a tire with fabric re-inforcement

they resist the grinding, close-up squeeze that SPLITS and MUSH ordinary washers out of shape . . . causing LEAKS.

Through combining NEOPRENE and FABRIC RE-INFORCEMENT they OUTWEAR ordinary washers 8 to 1 on hot or cold TAPS—thus you save water, fuel and labor costs.

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Edition F—not yet printed—over 2500 TROUBLE-WEAR stocking REPAIR parts and Air & Plumber Tools. It's today's outstanding buying guide for plumbing and maintenance personnel, serving thousands of top PLANTS, INSTITUTIONS and GOVERNMENT AGENCIES that rely on SEXAUER repair washers. Send for your copy today!

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WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

as advertised in THE SATURDAY EVENING POST

NEWS

NOTES

IEN-11076

ALUMINUM . . . Information booklet on the metal, its manufacture and its uses

General information . . . [illegible]

IEN-11077

ALUMINUM . . . Finishing methods detailed in revised book of 124 pages

Useful information . . . [illegible]

The 1950 edition . . . [illegible]

NOTE . . . [illegible]

IEN-11078

BALLS . . . Design suggestions outlined in catalog on metal balls

"Thought Stimulators" . . . [illegible]

All Makers of Items Mentioned in Product Notes Are Listed in THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 10

IEN-11079

FLO-MASTER
FOUNTNBRUSH
Marks *BOLD* — Writes *fine*
Ink Dries instantly — won't rub off

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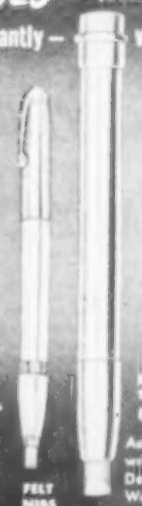

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POCKET SIZE 6¼ in. $3.00*
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Precision-built of aluminum. Inks in all colors. Cap of "King Size" may be screwed to bench to serve as stand.

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*Slightly higher in West and Canada

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Designed for low cost 50 to 75 watts
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SAMPLES
for design purpose
NO CHARGE

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Write us on your design problems.

Foremost Manufacturer of Pilot Lights
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No finger smear
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with A. W. FABER'S quick-action
LOCKTITE black or colored
REFILL DRAWING PENCIL

Patented collet clutches lead in bull dog grip — prevents breaking or slipping back into holder.

Holds all the standard graded drawing or retouching leads: WINNER Techno-TONE 1930—degrees 7B to 9H—assures best results.

Also available in RED, BLUE, GREEN, YELLOW, CARMINE, ORANGE, WHITE, and SILVER holding sturdy WINNER-Techno-TONE crayon leads for coloring, sketching and checking.

Unconditionally guaranteed

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IEN-11082

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CHICAGO 40, ILL.

BREEZITY—Identify by IEN-11083 if you write the maker

The Tool You'll Buy on Sight

Milwaukee HOLE-SHOOTER

Milwaukee Tri-Speed Kit "412" includes . . .

1. 5/8" HOLE-SHOOTER, ball and roller bearings, Jacobs geared chuck, 450 R.P.M.
2. 3-speed "Right-Angle Drive" — low speed 60 R.P.M., high speed, 675 R.P.M.
3. 3 special bits — 5/8", 13/16", 29/16".
4. Special wrench for speedy adjustment of "Right-Angle Drive" and chuck.

Complete Kit $87.00 *Tax Extra

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NO OTHER STEAM GENERATOR COMPARES WITH "POWERMASTER"!

ORR & SEMBOWER Powermaster STEAM GENERATORS

- Low fuel consumption through high efficiency
- Packaged design saves excessive installation costs
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- Delivered fully wired and factory tested
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High and low-pressure units—15 to 500 HP—for light oil, heavy oil, gas or combination gas-oil firing. Free catalog mailed promptly—address

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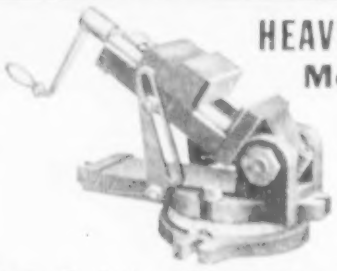
BREEZITY—Identify by IEN-11085 if you write the maker

PALMGREN ANGLE VISES



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For Quick — Accurate Set-ups

PALMGREN Heavy Duty Angle Vises are built sturdy and rugged for tough, heavy jobs. They are accurately graduated in degrees, can be quickly adjusted to any angle, stay locked under severe service and save valuable hours otherwise wasted in tedious make-ready, weighing or making temporary jigs and fixtures.

Jaws are hardened and ground. Special outstanding features are the size and opening of jaws. A Jaws open full 8 (in 8" clamp jaws full 6") wide, with corresponding depth of jaws. Vises can be used as quickly true while clamped or independent operation. Sizes available from stock: Sizes 4", 6" and 8". Jaws and openings. Prompt deliveries.

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MFRS. OF PALMGREN PRODUCTS for over 25 years
2306 SOUTH CHICAGO AVENUE • • • CHICAGO

ORDER TODAY Be Sure of IMMEDIATE DELIVERIES

PRECISION WORK AT ANY ANGLE

NEWS NOTES—Continued

"Two suggestion booklets on conveyors"

BREEZITY—Identify by IEN-11086 if you write the maker

BOILERS . . . Wall display chart traces development of steam boiler by pictures

Babcock & Wilcox Co.
85 Liberty St., New York 6, N. Y.

Seventeen pictures are presented in new wall chart to show how steam boilers have developed from that of the Greek engine of 130 BC to a modern outdoor boiler with vacuum furnace. The chart measures about 36 by 54 inches. Pictures are accompanied by short explanations.

BREEZITY—Identify by IEN-11087 if you write the maker

CASTING . . . Details on the "C" process to produce sand cores and molds for foundry use

Dorst Molding & Engineering Co.
5 Worth Road, North Tonawanda, N. Y.

Equipment and materials are described in new 4-page folder, "A New Process for Making Sand Molds." Materials are mixed with the company's resin and sand. The description is accompanied by a step-by-step procedure.

BREEZITY—Identify by IEN-11088 if you write the maker

CONTROLS . . . Application suggestions on photoelectric equipment in new bulletin

Minneapolis Electric Division
Minneapolis, Minn., Minneapolis 13, Minn.

Title of new 16-page Bulletin 5001B is "How to Use Photoelectric Systems." Little schematic drawings on the page show how to apply photoelectric equipment to count, color, note control, protect or equipment operation, activate limiter alarms. Text has case equipment and modifications.

BREEZITY—Identify by IEN-11089 if you write the maker

CONVEYING . . . Picture book of ideas on conveyor handling of parts and assemblies in process

Rapids Stow & Conveyor Co.
5001 Kalamazoo Ave., Grand Rapids, Mich.

Pictures and drawings show conveyor layout, design, component parts in new 60-page Catalog 50-B. Emphasis is placed on performance on automatic equipment such as that in automobile plants. Notes accompanying the illustrations point out features required, special features, multiple handling of small parts. Please use your letterhead.

BREEZITY—Identify by IEN-11090 if you write the maker

CONVEYING . . . Schematic layout drawings illustrate methods of handling products in process

Jones Co.
1114 S. Hopkins St., Louisville 5, Ky.

Sixteen drawings in new 20-page booklet, "The Key to Lower Costs," are presented to suggest ways in which materials and products can be handled to convenience from receiving to shipping. Pictures and condensed data report on a variety of specific installations in which conveyors are employed.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

BREEZITY—Identify by IEN-11091 if you write the maker

DANLY

KNURLED SOCKET HEAD Cap Screws AND Stripper Bolts

Knurled heads provide finger-grip for quick setting . . . hand key type hexing . . . not wrenches . . . more easy driving . . . more in inaccessible locations . . . prevents insure greater thread bearing . . . and resistance to stripping

Send for this bulletin . . . complete catalog and purchasing information

DANLY MACHINE SPECIALTIES, INC.
2100 South Laramie Avenue, Chicago 50, Illinois

PRECISION DIE SETS...TOOL, DIE AND GAGE MAKERS' SUPPLIES

BREEZITY—Identify by IEN-11092 if you write the maker

Streamline your hand labeling with new Mystik Self-Stik Labels

FAST! Stick instantly, by pressure, without glue, water or heat. Save time, speed production.

EASY! Solve tough labeling problems, for hard-to-label surfaces or locations.

PERMANENT! Won't dry out, curl up or come loose—yet can be removed without a trace.

BEAUTIFUL! Printed in any color combination, die-cut to any shape. Better labels for every purpose . . . to sell or identify or for instructions.

*For free samples write

CHICAGO SHOW PRINTING CO., 2644 N. Kildare, Chicago 39

BREEZITY—Identify by IEN-11093 if you write the maker

SAVE SETUP TIME

DRILLING
MILLING
GRINDING
PLANING
SLOTTING
BORING

SUPER-SPACER

Output of machined parts is speeded up without sacrifice of accuracy with a Super-Spacer. This indexing fixture allows rigid control of the machining operation, yet saves expensive setup time on long or short runs. Send for Bulletin S-101.

HARTFORD Special

THE HARTFORD SPECIAL MACHINERY CO.
HARTFORD 12, CONN.

BREEZITY—Identify by IEN-11094 if you write the maker

PUT AIR POWER from LEIMAN AIR PUMPS TO WORK FOR YOU

WHAT DO YOU KNOW ABOUT AIR POWER?

Do you know that you can make use of AIR POWER in many of these forms?

VACUUM . . . furnished by a Leiman Air Pump can be used for lifting, holding, or transferring light materials, liquids or gases.

PRESSURE . . . furnished by a Leiman Air Pump is perfect for materials, gases, or liquids which must be blown, agitated, or separated.

POWER SOURCE . . . use an explosion-proof Leiman Air Motor for instant and variable speed control of mixers, agitators, feeders, testing apparatus, etc. No speed-change gearing needed.

Investigate AIR POWER today. Send for new 16 page Catalog of Leiman Air Pumps, Gas Pumps, and Air Motors.

LEIMAN BROS., INC., 166-L Christie St., Newark 5, N. J.

AIR MOTORS • GAS BOOSTERS • DUST COLLECTORS • SAND BLASTS

▼ DRAFTIT—Identify by IEN-11095 if you write the maker ▼

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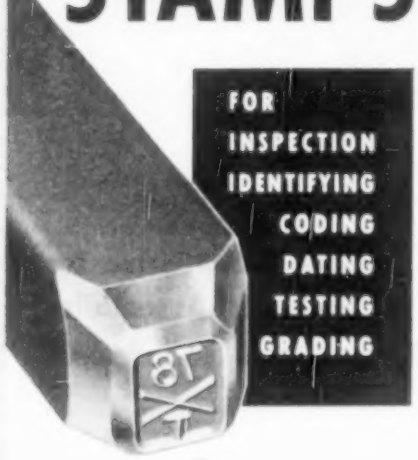
Rubber skins aren't even in the running when compared with the fleecy-soft resilience of Tuffles Protective Padding! That's why Tuffles—the remarkable *felted* wood fiber material—is widely used where products must be protected from marring and heavy impact blows. But that's only ONE of the many uses for Tuffles! Tuffles provides superior cushioning for upholstered furniture and other products . . . is highly efficient for thermal insulation and sound deadening. Obtainable in moisture resistant, fire retardant and moldproof forms. Tuffles easily cuts to any size or shape. Get all the facts about Tuffles—Write us!

WOOD CONVERSION COMPANY

DEPT. 126-110 FIRST NATIONAL BANK BLDG., ST. PAUL 1, MINNESOTA

▼ DRAFTIT—Identify by IEN-11096 if you write the maker ▼

SYMBOL STAMPS



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Manufacturers in every basic industry are now using Matthews Symbol Stamps, both rubber and steel, for confidential inspection, coding, dating or product analysis marking. Inspection workers and stickers in each phase of production are "sure" in operations a tool may perform . . . saving amounts of rejections, ship and speeding up manufacturing processes.

Matthews Symbol stamps can be supplied with standard symbols, or with any special lettering or designs you wish to create.

Write Matthews today for instructions.

"BULLETIN A-" gives complete details and facsimiles of stock symbols, from which you can make the proper selection.

JAS. H. MATTHEWS & CO.
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NEW YORK BOSTON PHILADELPHIA CHICAGO
NEWARK SYRACUSE CLEVELAND CINCINNATI
DALLAS BIRMINGHAM LOS ANGELES

NEWS NOTES—Continued

"Information on unusual conveyor roller"

▼ DRAFTIT—Identify by IEN-11098 if you write the maker ▼

CONVEYING . . Self-centering roller developed by the company for its run-out tables

Conveyor Engineering Co.
424-30 Sycamore Ave., Cincinnati 30, O.

Not available for general use for conveyor lines or forwarding design is the new Long self-centering roller, developed by the company for its own use. The roller consists of two truncated cone shaped rollers arranged so their large diameters meet at a point, with their axes at an angle. Thus the surfaces form an approximately horizontal flat roll or portions thereof as a unit to direct any off-center object into the middle. Passage of a series of the rollers (one or two spaced) allows

Other uses include feed and guide rollers for conveyors in packaging, processing, sorting operations. The roller can be used as a guide for a belt conveyor or thrust supporting a solid steel belt. The company will send you on request a copy of its series of pages "Self Centering Rollers and Pulleys for Automatic Self Aligning Motor, Hinges and Belts," written by its engineers, Mr. D. T. Long.

▼ DRAFTIT—Identify by IEN-11099 if you write the maker ▼

COOLING . . Instruction manual on maintenance of automotive cooling systems

E. Lake Ryan & Associates & Co.
2218 Pennsylvania Bldg., Washington 4, D.C.

A trouble-shooting chart is contained in new 12-page "Automotive Cooling System Manual," no. 11-12, 24 in. Small that outlines a copyright date of 1948 and a list price of $2. The chart lists three steps in finding trouble, is keyed to 24 following pages of detail various and remedies. Text, schematic diagrams and cut-away views describe how an automotive cooling system works, how to prepare for summer and winter operation, how to clean it, how to test and how to operate flushing. Instructions are given on how to perform any procedure.

▼ DRAFTIT—Identify by IEN-11100 if you write the maker ▼

CYLINDERS . . Tracing templates for company's power cylinders offered on request

Universal Air Machine Co.
[illegible]

Eight sheets printed on both sides comprise one set of templates which the company offers to send you without cost or obligation. Air and hydraulic cylinders are drawn to one-half and full scale on the sheets so you can trace them into a drawing together with their mounting accessories. Each cylinder is shown in plan, front and end elevations in sizes from 1 to 8 in. bores.

▼ DRAFTIT—Identify by IEN-11101 if you write the maker ▼

DRAFTING . . Cardboard triangle to divide a length into equal parts graphically

Dempster Co.
[illegible]

"Equi Quick Divider" trade-named new triangular device to divide a given length of line into two equal parts without the necessity of making calculations. It measures 30 by 18 in., now at 25 cents in cardboard, $5.50 in aluminum [illegible]

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ DRAFTIT—Identify by IEN-11102 if you write the maker ▼

"stub" position crimps are possible with AMP'S NEW PNEUMATIC TOOL

INTERCHANGEABLE HEADS FOR CRIMPING SOLDERLESS TERMINALS ON WIRE SIZES FROM #6 TO #1/0.

This hand-AMP tool means interchangeable crimping heads for a line conventional "side position" or novel "end position" crimping, as well as a flexible set of handles and toggles. A compressed air system tool to be supported from above. Accepts [illegible] safety [illegible] Toggle action jaws insure complete crimping cycle. Operates from standard shop outlets of 85 p.s.i.

AMP AIRCRAFT-MARINE PRODUCTS INC.
1507 N. 4th Street, Harrisburg, Pa.
[illegible]

▼ DRAFTIT—Identify by IEN-11103 if you write the maker ▼

UNIVERSAL EXPANDED METAL FLOOR TRUCKS

MODEL A-A Length 60", width 30", height 32"

MODEL A-B Length 60", width 30", height 48"

- Greater Economy
- Greater Utility

Literature Mailed Promptly Upon Request

Durable, highly maneuverable, economically priced. Designed to meet a wide range of material handling jobs. Rigid angle iron frame. Equipped with four 4" ball-bearing fiber casters—swivel casters centered at front and rear; rigid casters centered on each side. Model A-B has hinged drop panel on side equipped with positive safety latches.

● Also other types of expanded metal containers in sizes and quantities to customer's specifications.

INDUSTRIAL ENGINEERING & MFG. CO., INC.
SAINFIELD, INDIANA, U.S.A.

▼ DRAFTIT—Identify by IEN-11104 if you write the maker ▼

small size

Yarway Impulse Steam Trap is hardly larger than a pipe union. Easily installed anywhere ½" trap weighs 8¼ lbs.; 2" trap only 26½ lbs. Over 650,000 Yarway traps have been proved on the job. Sold by over 200 distributors. For name of nearest one, or free bulletin, write . . .

YARNALL-WARING CO., 122 Mermaid Ave., Phila. 18, Pa.

YARWAY IMPULSE STEAM TRAP

▼ DRAFTIT—Identify by IEN-11105 if you write the maker ▼

THE BRUTE

ARO HEAVY DUTY VERTICAL GRINDER

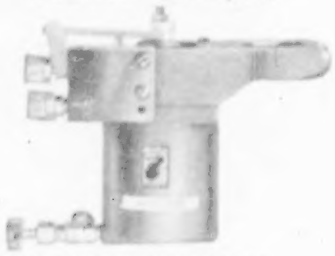
- IT'S BIG
- BIG POWER
- BIG TIME PERFORMANCE
- TRY IT

ARO AIR TOOLS

The Aro Equipment Corporation, Bryan, Ohio
Aro of Canada, Ltd., Toronto, Ontario

IEN-11106

DOUBLE YOUR DRILL PRESS OUTPUT FOR $30



USE A NEW MEAD PNEUMATIC

DRILL PRESS FEED

for

DRILLING
REAMING
TAPPING

MEAD
SPECIALTIES COMPANY
416 NO. KNOX AVE., DEPT. 8-10-A, CHICAGO 41, ILL.

NEWS NOTES—Continued

"Design suggestions on brass forgings"

IEN-11109

ELECTRONIC PRODUCTS . . . Technical data on silicon crystal diodes for microwave use

IEN-11110

EXTINGUISHING . . . ABC information on types of fire and how to extinguish them

IEN-11111

FASTENINGS . . . Supply service lists stock of non-ferrous and stainless items

IEN-11112

FIRE PREVENTION . . . Useful information on properties on some 650 flammable materials

IEN-11113

FORGINGS . . . Made of brass the subject of new 32-page booklet

IEN-11107

VULCAN
ELECTRIC HEATING UNITS

FINNED
STRIP

115 and 230 VOLTS

Experienced Specialists in Electric Heat

VULCAN ELECTRIC COMPANY
DANVERS 8, MASS.

IEN-11108

SEND FOR ALLIED'S FREE
NEW 212-PAGE
1951 CATALOG

ELECTRONIC
SUPPLIES
for INDUSTRY

Complete, Expert Industrial Service

EVERYTHING IN ELECTRONICS FROM ONE SOURCE

ALLIED RADIO
Send for FREE CATALOG

IEN-11114

GET YOUR COPY . . . JUST OFF THE PRESS

The NEW
Watson-Stillman
Hydraulic Power Tool
Bulletin A-5

Not a catalog but a condensed power tool reference brochure with all material reduced to its simplest form.

Easy to read—this brief but compact booklet gives you, at a glance, information on modern Watson-Stillman Jacks, Pumps, Benders and Shears.

Products are illustrated . . . operating features simplified . . . constructions clearly . . . a wealth of pertinent information contained in its pages. It's ready when you need Power Tool information—and it's FREE.

W-S

SEND FOR YOUR FREE COPY TODAY

WATSON-STILLMAN
Established 1848
Distributors Products Division
ROSELLE, NEW JERSEY, U.S.A.

IEN-11115

they call me

Handy Andy

Here's the handiest test pump for hydraulically testing valves, valves and fittings, for operating hydraulically actuated equipment, for hundreds of other uses in field, laboratory or shop. ★ This two-stage, manually operated pump has one cylinder for low-pressure testing (up to 2,500 psi), is quickly shifted to develop up to 6,000 psi. ★ Replaces elaborate, expensive testing equipment. ★ Rugged, portable (weighs only 70 pounds) and with a bucket of water you can quickly and positively develop on-the-spot pressures up to 6,000 psi. ★ Costs mighty little—lasts indefinitely—pays for itself long before a few inexpensive wearing parts need to be replaced. ★ For details and price address:

BAKER OIL TOOLS, INC.
BOX 2374 TERMINAL ANNEX
LOS ANGELES 54, CALIFORNIA

IEN-11116

4,172,500
operating cycles
with no sign of failure

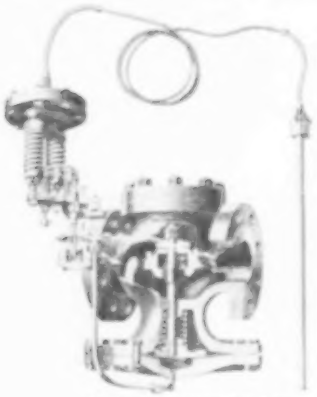
...in Reeves Motodrive Test of NORGREN Assemblies!

SPECIFY NORGREN HOSE ASSEMBLIES

Norgren
LUBRICATORS, REGULATORS, VALVES
FILTERS, HOSE ASSEMBLIES

IEN-11118

LOW COST
Temperature Control



#7110 Temperature Regulator

New bulletin gives complete data on the entire line of Spence regulators. They are made in sizes from 1/4" to 12" for service with air, steam, water, oil or gas. Write for your free copy of Bulletin 500 today.

Spence

SPENCE ENGINEERING COMPANY, INC.
WALDEN, NEW YORK

IEN-11119

New Lincoln Accessories at NEW LOW PRICES

Insulated Electrode Holders
Unique "hook-jaw" construction on the LH-3 gives extra strong grip, yet easy quick release. Complete for welding in close quarters. Rated 250 amps. Handles 1/8" to 5/8" electrodes.
"INS" Holder. Light in weight yet rugged, built, self-ventilated. Rated 250 amps. For electrodes sizes 1/8" to 5/8".
Lincoln insulated holders sell for less than often charged for replacement parts on other makes of holders.

High Flexibility Welding Cable
"Lincoloctor". Lincoln's new, low-priced, high-quality welding cable. Copper strands encased in special paper wrapping allow strands to slip within the cable when bent sharply. "Stable-Arc". The industry's top standard of quality. Unsurpassed for long wear for resistance to impact.

High Quality Welding Lenses
"Hi-Visibility". Lincoln's new, high quality, low priced welding lens. Surpasses Federal specifications.

GET THE FACTS

Write for Bulletin 447, Lincoln Directory of Welding Supplies.
THE LINCOLN ELECTRIC COMPANY
Dept. 126, Cleveland 1, Ohio

Sales Offices and Field Service Shops in All Principal Cities

IEN-11120

...ANOTHER REASON FOR THE "SUPER-LIFE" OF ATLAS CHAIN

The Atlas Match Process used for case hardening bushings and pins is one big reason for the success of Atlas "Super-Life" Chain. Matching provides an outer surface strength based to the core of the steel which provides greater strength and wear resistance. The link plates and rollers are also made of tough, heat-treated alloy steel.

Investigate today the chain that keeps on running after ordinary chain is out of service. Write ATLAS CHAIN and MANUFACTURING COMPANY, Kensington & Cambria Avenues, Philadelphia 34, Penna.

"SUPER-LIFE"
ATLAS CHAIN

NEWS NOTES—Continued

"How to select hard facing alloy"

IEN-11121

HARD FACING ... Detail instructions on procedure and alloy selection in new bulletin

IEN-11122

HEATING ... How to test unit heaters described in second edition of standard code

IEN-11123

LUBRICATING ... Application instructions for graphite-type solid film lubricant materials

IEN-11124

LUMBER ... For industrial use, data sheets specify grades by application

IEN-11125

MACHINING ... House publication describes applications of company's equipment

All Makes of These And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 10

IEN-11126

Important Notice to DESIGN ENGINEERS

ALL BOSTON STEEL MITER GEARS ARE NOW CUT

20° Pressure Angle

Quieter — Longer Life

This means you can often use finer pitch, more compact, less expensive gears for any given load. They'll run quieter — last longer.

Design these new and better gears into your equipment. They are in stock at eighty Boston Gear distributors. Ask the one nearest you to show you a pair of these new 20° Pressure Angle Miter Gears. His name and a copy of the new Boston Gear Catalog No. 55 are yours on request.

BOSTON gears stocks are right

BOSTON GEAR WORKS
61 HAYWARD ST., QUINCY 71, MASS.

IEN-11127

Today it's Roebling!

for extra safety at less cost

HERE'S THE NEW Roebling All-Purpose Sling with the Tapered Sleeve Splice . . . and the splice is big news! It is cheaper than other ways to end splices, saves the cost of splicing your own. And the unique rolled loop and the sleeve attachment develop the full rolling strength of the All-Purpose Sling.

New Roebling All-Purpose Slings with the Tapered Sleeve splice are the last word in toughness and dependability. No sewings, all wire ends permanently covered. Full flexibility and handling ease. Available in standard lengths and sizes, all ready for the job. Write for complete information and also for the "Sling Data Book." John A. Roebling's Sons Company, Trenton 2, N. J.

ROEBLING

A CENTURY OF CONFIDENCE

IEN-11128

SIMONDS ABRASIVE CO.

ABRASIVE GRAINS

for polishing tumbling pressure blasting anti slip

BORDOLON for polishing metal parts on set-up wheels. Hard, sharp, tough and fast polishing.

BORDOLON and BORDOGRIT for finishing metal parts including small and large forgings and stampings.

BOROBLAST for pressure blasting and decorative use on marble, glass, aluminum and glass. Also for cleaning foundry castings.

SANS SLIP for eliminating hazard of slipping on industrial floors, ramps, stairs, etc.

SIMONDS ABRASIVE CO., 5512 TACONY ST., PHILA. 37, PA.
DISTRIBUTORS IN ALL PRINCIPAL CITIES

IEN-11129

HEADQUARTERS FOR BLOW GUNS

Drop Forged Stainless Steel for hard use and long life. Comfortable grip, protected, unobstructed vent. Long-as-Knew, shielded bulbs, practically indestructible.

Lever type forged brass. Continuous or flow type—replay to a blast.

Button type forged brass. Popular on contour gun.

Toothpick weight Blow Gun. Light as air. Strong body. Convenient for getting into out of way places.

Spray Nozzle for right angle cleaning tools. For painting, grease cup, oil cup, lubricating, etc. For use with blow guns A, B & C above.

Heavy Duty Blow Gun. Strong body with dual vent. Has double air vent the air capacity of gun above.

Blow Guns A, B and C may be fitted with a wide variety of tools—long, angular, flared, etc.—some with interchangeable air flow heads.

A. SCHRADER'S SON
470 Vanderbilt Avenue
BROOKLYN 17, NEW YORK, DEPT. IN-11
Division of Scovill Manufacturing Company, Incorporated

Schrader

▼ BRIEFITS—Identify by IEN-11130 if you write the maker ▼

MODERN
INDUSTRIAL COUNTERS

Rugged as an Arizona rock. Work smooth as a watch.

Precision built — for remarkable wear life. Jewel-proof bliss!

Modern design streamlined appearance — you can see the quality.

Used by the thousands in Auto and Aircraft Factories, Metal Working, Die Casting, Plastic Molding and Stamping Firms.

See a Silver King and compare. Under compare on approved order.

Send for Catalog
describing
Stroke and Revolution Counters
Coil Winding Counters
Electric Counters
Electric Batch Counters
Actuating Switches

Production Instrument Company
700-10 W. JACKSON BLVD., CHICAGO 6, ILL.
Representatives in Principal Cities

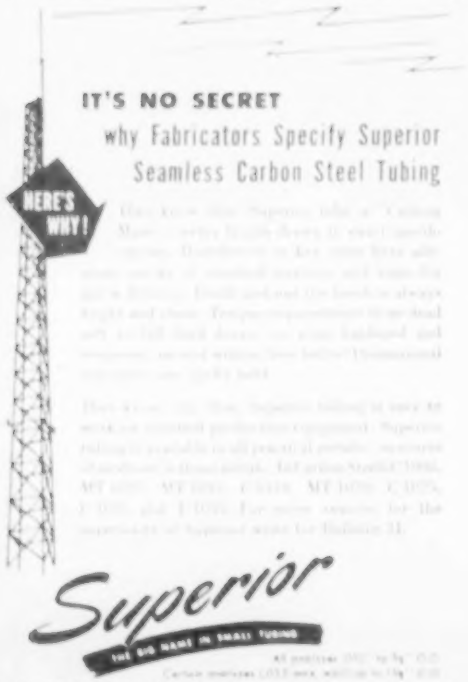
▼ BRIEFITS—Identify by IEN-11131 if you write the maker ▼

A150. Installation photos, complete list of cost-cutting advantages. Clear, graphic, concise—shows and tells how this revolutionary new gear coupling can cut your power transmission costs.

SEND TODAY FOR YOUR FREE COPY

Sier-Bath GEAR and PUMP CO., Inc.
7258 Hudson Blvd., North Bergen, N. J. Member A.G.M.A.

▼ BRIEFITS—Identify by IEN-11132 if you write the maker ▼



SUPERIOR TUBE COMPANY • 2016 Germantown Ave., Norristown, Pa.

NEWS NOTES—Continued

"How to use color to stimulate production"

▼ BRIEFITS—Identify by IEN-11133 if you write the maker ▼

MANAGEMENT . . . Production control with the aid of punched cards described in bulletin

Remington Rand Inc.
315 Fourth Ave., New York 10, New York (Dept. 1)

Collecting and tabulating facts is practiced and preached as the subject of new design under [illegible] S. "Production Control, or Manufacturing Controlled" is discussed. Row punched cards can be used in engineering, scientific and production planning and forecasting, scheduling.

Examples are given in the use of "Computing Slide rule for forecast by production units such as pounds, sheets, kilos of raw materials, stock records, [illegible] equipment, office and engineers. There is a 7 page review of the company's equipment and a 32 page set of illustrated examples.

▼ BRIEFITS—Identify by IEN-11134 if you write the maker ▼

MANAGEMENT . . . Color filmstrip on productivity and the American standard of living

Standard Coating Corp.
[illegible] Ave., New York, N. Y.

Sixty pictures in color with a [illegible] are shown from an 8 mm. "Motion Picture Movie Film" [illegible] Purpose is to describe the advantages of the [illegible] system with particular emphasis on the part that employee pride in production and the importance of increased productivity. A [illegible] is also [illegible].

▼ BRIEFITS—Identify by IEN-11135 if you write the maker ▼

PAINTING . . . How to use color in plant painting as an aid to production

[illegible]

"Color Conditioning," [illegible] 32 page booklet on how to use color in painting industrial and other buildings. Pictures show how color affects [illegible] and how to use color to raise productivity and reduce [illegible] on the work point. Also [illegible] from preparing [illegible]. Includes [illegible] to apply [illegible] and [illegible].

Other examples show how to use color in [illegible] the work area and on a basis [illegible] in a factory color code. A [illegible] of a plant building [illegible] and [illegible] to use in offices, factor [illegible] and [illegible].

▼ BRIEFITS—Identify by IEN-11136 if you write the maker ▼

PLASTICS . . . Fabricating instructions on Plexiglas II heat resistant plastic sheet

[illegible]

Bulletin 68 is [illegible] information on fabrication of Plexiglas II, the company's [illegible] plastic sheet for many uses where temperatures range up to 175 to 200 deg. F. It contains [illegible] properties in general, [illegible] U.S. patents dealing [illegible] and forming, and [illegible] a bibliography [illegible] properties.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 56

▼ BRIEFITS—Identify by IEN-11137 if you write the maker ▼

FREE ON REQUEST
[illegible]

THE CINCINNATI TIME RECORDER COMPANY
Dept. IEN-11

▼ BRIEFITS—Identify by IEN-11138 if you write the maker ▼

ACTUATORS *for the most exacting design requirements!*

SPECIAL MOTORS . . . Drip proof, splash proof, totally enclosed, vapor seal, submersible, high and low extremes of operating temperatures.

SPECIAL GEARING . . . Speed range of 30,000 to 1 R.P.M., helical spur, bevel and planetary type.

COMPLETE POWER PACKAGE UNITS. For A.C., D.C. power source with, magnetic clutches and brakes, built-in limit switches, potentiometers, thermal overload relays, radio noise filters, pressure tight shaft seals with linear or rotating power takeoff.

• For positive cockpit sealing, Hoover built into this power unit a unique torque limiting clutch with no frictional parts, the load being transmitted by spring-loaded rollers. Has operated 5,000 consecutive times with a maximum variation in torque of 15% from specified value.

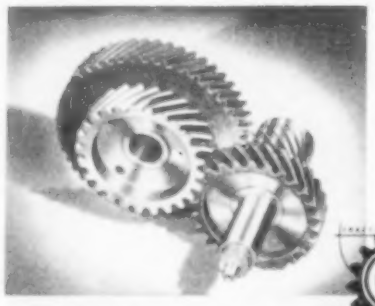
HOOVER ELECTRIC COMPANY
2100 South Disney Avenue • Los Angeles 33, California

▼ BRIEFITS—Identify by IEN-11139 if you write the maker ▼

"TENDERSTEAK" MACHINE USES
G. S. FRACTIONAL HORSEPOWER GEARING

Speedy, *powerful* operation characterizes the new improved Model 761-U.S. "TENDERSTEAK" MACHINE. Yet with all of its surging speed and power, there's a smooth, QUIET atmosphere of quality that only G. S. Fractional Horsepower Gearing gives. U.S. BERKEL and many of America's largest manufacturers of fine electrical equipment depend upon G. S. for *better* Gearing. If YOU need *production runs* of Gears from 12 to 96 D.P. or finer . . . smooth, quiet, durable Gearing uniformly cut to the most exacting specifications . . . better entrust the job to G.S. Discuss your Gearing problems with our engineers. Or send along drawings and specifications today! Suggestions, ideas and cost estimates incur no cost or obligation.

Send for Free new 8 page folder which illustrates and describes G.S. facilities, Small Gearing and applications together with handy charts for those who specify Gearing from 12 D.P. and finer. Will you ask for it on company stationery, please?



GEAR Specialties, Inc.
Spurs · Specials · Helicals · Bevels · Internals · Worm Gearing · Racks · Thread Grinding
2635 WEST MEDILL AVE., CHICAGO 47, ILL.
WORLD'S LARGEST EXCLUSIVE MANUFACTURERS OF FRACTIONAL HORSEPOWER GEARING

▼ BREEFITT—Identify by IEN-11141 if you write the maker ▼

This informative, illustrated booklet tells why a correctly made coated abrasive belt used in connection with a backstand and a contact wheel is a better method than the set-up wheel method for grinding, polishing or finishing flat or contoured surfaces, cast, stamped or forged pieces. To learn more about these and the countless other advantages of the backstand method write or phone.

ARMOUR *Coated Abrasives Division*

Armour and Company • 1355 West 31st Street • Chicago 9, Illinois

▼ BREEFITT—Identify by IEN-11142 if you write the maker ▼

Here's help for Heating Headaches

You can heat for less with attractive, efficient Dunham Convector Radiation.

In the first place, you eliminate the costly waste of heat lag and over-run. For Dunham Convectors respond almost instantly to central heating system controls.

In the second place, Dunham Convectors assure the most efficient heat distribution. You never need "over-heat" to be sure that warm air gets to every part of the room.

Dunham Convectors—in types and sizes for every need—can help reduce your fuel costs. For further information, write for File 1205-H.

DUNHAM

HEATING SYSTEMS AND EQUIPMENT

C. A. Dunham Co.
400 W. Madison St., Chicago 6, Ill.
In Canada
C. A. Dunham Co. Ltd., Toronto
In England
C. A. Dunham Co. Ltd., London

▼ BREEFITT—Identify by IEN-11143 if you write the maker ▼

STOP Hand Hacksawing **LABOR**

Use **HAND-I-HACK**** PORTABLE POWER HACKSAW

Muscle is the most expensive power known and it produces the least satisfactory results. Especially in hacksawing!

Stop this time waste and drudgery. Use HAND-I-HACK. It will do most hacksawing jobs usually done by hand—because it works in any position, can be carried anywhere to the job, quickly pays for itself in labor saving and improved work. Capacity 2" x 3". Write for catalog and name of dealer.

*One man's energy output approx. 40W

**Trade Mark Reg. U.S. Pat. Off.

Lipe-ROLLWAY CORPORATION

812 EMERSON AVE. SYRACUSE, N. Y.

NEWS NOTES—Continued

"How to use photo print materials"

▼ BREEFITT—Identify by IEN-11144 if you write the maker ▼

POWDER METAL PARTS . . . Examples of use described in current issue of house publication

Dave Jones, Inc. Co.
Fogel & Mulder Lane, Palos Park, N. Y.

Five examples of product communication made from metal powder are shown in the issue entitled "Metal Powder Forms," company's house publication. Designs, prototypes, unretouched and remarks for use of powder metal parts are noted. Your name will be added to the mailing list on request.

▼ BREEFITT—Identify by IEN-11145 if you write the maker ▼

PRINTING . . . Methods and materials for making drawing and photocopy reproductions

Economy Kodak Co.
541 45 Street St., Kansas City, N. Y.

New 1950 edition "How to Use Economy Reproducing Materials" is a 56-page booklet that runs to 30 cents. It presents detail information on the company's papers, film, cloth, and materials for making photocopies of drawings, prints, documents, business forms. It tells how photocopying can be used in engineering work, illustrates steps in reproducing various types of original material, describes exposure, printing, handling, processing in detail. There is a list of prints, briefly accompanied by causes and suggested remedies and a selection of formulas for the more discriminating.

▼ BREEFITT—Identify by IEN-11146 if you write the maker ▼

REFRACTORIES . . . Information on selection in 440-page book on company's line of materials

Harbison-Walker Refractories Co.
1520 Koppers Bldg., Pittsburgh 19, Pa.

"Modern Refractory Practice," 1950 edition, is a handsome presentation of the company's products and their uses. It is a bound book, 9x12 inches, and describes standard shapes and sizes, special refractories, refractory and basic refractories, insulating refractories, ceramic products.

Useful information includes data on refractory appearance, a variety of installation suggestions, selection, methods of substituting, furnace walls design and calculations, properties, values of brick, conductivity for steel and for surface. The book will be sent on letterhead request to specifier and/or user. Other sizes, p. 66.

▼ BREEFITT—Identify by IEN-11147 if you write the maker ▼

RUBBER PRODUCTS . . . Useful information on rubber molding and rubber compound properties

Rubber Products Co.
49 Sturgis St., East Boston 9, Mass.

Technical data section is now 32-page booklet 30 describes injection, transfer and compression methods of molding rubber compounds with a list of points to consider. It tells what specifications manuals, tools, data on a number of compounds, general properties on five types of rubbers. Typical products and facilities are pictured.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 16

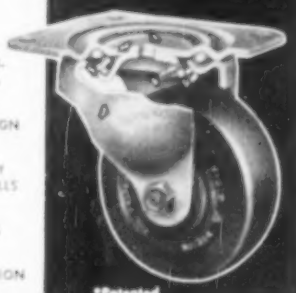
▼ BREEFITT—Identify by IEN-11148 if you write the maker ▼

NEW Fairbanks Series "23" Double Ball Race SWIVEL CASTER

STRONGER ON EVERY POINT

The NEW Fairbanks Series "23" Double Ball Race Swivel Caster* line is designed for greater load carrying capacity in the medium duty field.

- NO KING-PIN it's eliminated!
- "LOCK-WELD" CONSTRUCTION retains perfect alignment!
- PATENTED LEG DESIGN resists distortion!
- LARGER SECONDARY RACEWAY AND BALLS work easier!
- COINED RACEWAYS improve with use!
- PRESSURE LUBRICATION reduces friction!



*Patented

THE **Fairbanks** COMPANY
393 LAFAYETTE STREET, NEW YORK 3, N. Y.
BRANCHES: Boston 10 • Pittsburgh 22 • New York 3 • Rome, Ga.

TRUCKS • VALVES • DART & PIC UNIONS • CASTERS

▼ BREEFITT—Identify by IEN-11149 if you write the maker ▼

HANNIFIN

HYDRAULIC

Everything you want in **CYLINDERS**

Here's help for busy machine designers and plant operating engineers. You can save time and money right from the start by checking with Hannifin on all of your hydraulic and pneumatic cylinder requirements. *The Hannifin line is complete!*

Hannifin sets the standard for quality! Perfected, tested designs, finest quality construction. Test proven packings! Finest seals! Proper finishes! Interchangeable parts! Cylinders "Tru-Bored" and honed, rods ground and polished. For complete information, see your local Hannifin representative, or write:

HANNIFIN CORPORATION
1101 S. Kilbourn Ave.
Chicago 24, Ill.

PNEUMATIC

Helpful **BULLETINS**

Bulletin 110 (Left) "HANNIFIN HYDRAULIC CYLINDERS"

Bulletin 210 (Right) "HANNIFIN PNEUMATIC CYLINDERS"

▼ BREEFITT—Identify by IEN-11150 if you write the maker ▼

STORING AND HANDLING 1728 REELS

The three racks shown above are 63 feet long and will accommodate 576 reels per row or a total of 1728 reels. This number of 24" reels will store 300,000 pounds of wire.

The reels are taken to or removed from the racks by means of a Cleveland Tramrail overhead rail system with easily operated chain hoists and special reel grabs. Each reel space is numbered and each reel is weighed before placing on racks, which makes keeping a perpetual inventory easy.

GET THIS BOOK!

BOOK No. 2008
Packed with valuable information

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
4228 East 38th Street, Wickliffe, Ohio

CLEVELAND TRAMRAIL

▼ BREEFITT—Identify by IEN-11151 if you write the maker ▼

6-Way Pay off . . . with the
PRATT & WHITNEY KELLERFLEX CARBIDE

DI-BUR TRADE MARK

1 **MASTER GROUND BY MACHINE!** To cut smooth and true — right down to the nose.

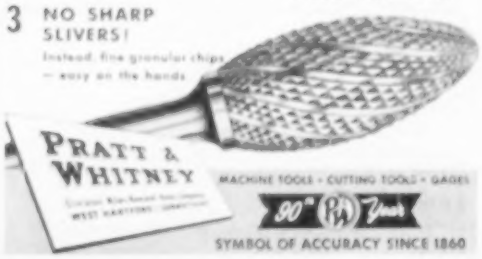
2 **DEEP FLUTED!** For greater chip clearance — remove tough metal freely.

3 **NO SHARP SLIVERS!** Instead, fine granular chips — easy on the hands.

4 **RUN AT SLOWER SPEEDS!** Run at half the rpm of ordinary carbide burs — for an effortless, smooth finish.

5 **CUT COSTS, TOO!** Because there's less handling, less wear and tear on portable machines.

6 **Stocked to meet your immediate cost-cutting needs** in 50 shapes and sizes.



PRATT & WHITNEY
Division Niles-Bement-Pond Company
WEST HARTFORD, CONNECTICUT

MACHINE TOOLS • CUTTING TOOLS • GAGES

90th Year

SYMBOL OF ACCURACY SINCE 1860

IEN-11152

you can get in FAFNIR Ball Bearings this small

• For extremely small shafts in instruments, home appliances, cameras and projectors, thousand (e.g. models, Fafnir makes several series of extra small ball bearings — in metric bore sizes down to 3 mm and in inch sizes down to ⅛". Available with standard, special or super-precision tolerances. Three construction — filling slot, snap-filling or spring type retainers. Can be sealed with grease shields, felt seals, Mechano-Seals or Flex-Seals. If you want top performance on a small shaft — Fafnir has the answer. Write for new Instrument Bearing Catalog. The Fafnir Bearing Company, New Britain, Conn.

FAFNIR
BALL BEARINGS
MOST COMPLETE LINE IN AMERICA

IEN-11153

GPX Georgia-Pacific's plastic-faced plywood with a satin-smooth, armor-hard surface that is part of the plywood itself, not merely an applied surface layer, is the perfect material for pallets. Extra strong, GPX won't splinter or chip — is super-smooth to protect the most delicate load. Long lasting GPX is economical because pallets made from it can be used long after pallets of other materials have worn out.

Industrial users are also finding that GPX is ideal for instrument assembly line tables, storage bins, home decks and countless other plywood applications.

GPX is Weatherproof — GPX is Water Resistant
GPX is Abrasion Resistant — GPX is Shock Resistant
GPX is Vermin Resistant — GPX is Smooth
GPX is Extra Strong — GPX is Workable
GPX is Durable — GPX is Attractive

GP — GEORGIA—PACIFIC
PLYWOOD & LUMBER CO.
NEW YORK · BOSTON · CHICAGO · PHILADELPHIA · FORT NEWARK

FOR COMPLETE DATA, FILL IN AND MAIL THIS COUPON TODAY:

Georgia-Pacific Plywood & Lumber Co.
1250 Southern Finance Building
Augusta, Georgia

NAME
NEW NAME
OUR ADDRESS
POSITION

Please send me the GPX Use Folder

NEWS NOTES — Concluded

"Basic information on regulating valves"

IEN-11155

SWITCHES . . . Your suggestion invited by house publication on switch applications

"Micro Tips" . . .

IEN-11156

VALVES . . . Nomograph flow charts in new 72-page catalog on solenoid valves

Pictorial index . . .

Feature . . .

IEN-11157

VALVES . . . Book lists equivalents of standard valves by 19 manufacturers

"Equivalent Valves" . . .

IEN-11158

VALVES . . . Basic information on temperature regulating valves for process use

Eight ways . . .

Basic ideas . . .

By Makers of Trade And All Other Products Are Found in THOMAS REGISTER . . . Descriptions . . . Ratings . . . See Page 56

IEN-11159

This valuable unfused flux from submerged arc welding is *automatically* salvaged by Invincible Flux Recovery Units . . . In steady use for four years, these Invincibles have required a minimum of repairs.

The complete line of Invincible Recovery Units offers the right size and type for every kind of submerged arc welding job.

WRITE FOR FREE FOLDER on Flux Recovery

INVINCIBLE VACUUM CLEANER MFG. CO.
DOVER, OHIO

IEN-11160

Rotor's 15 New "Multi-power" Chippers are easier to handle . . . do jobs faster

The unique hollow grinder and "doughnut" valve of the 15 new Rotor "Multi-power" Chipping Hammers provide the 1-2 punch to cut your chipping costs.

Lighter Weight. These new Rotor Chippers range 10 to 15 lbs. lighter than other chippers making them easier to handle.

Shorter. Exclusive "doughnut" valve makes possible saving of 1" to 2" in length, making it easier to get into those tough, crowded corners.

Faster Cutting. You get more blows per minute . . . because of new exclusive design.

3 Models in 1. By a simple change of parts you can adapt each of the 5 basic models to serve as 3 hammers in general construction: (1) A "regular" model . . . (2) "super-speed" model . . . (3) A "super-sock" model.

This is the biggest advancement in chipping hammers in the past 15 years! Find out all about it! Write for catalogue No. 15.

AIR O'TOOL

THE ROTOR TOOL CO.
CLEVELAND, OHIO
UNBIASED ANALYSIS OF PORTABLE TOOL PROBLEMS

IEN-11161

OPERATES INDEPENDENTLY
of power source

NEW Gasoline Engine Powered

HOFFCO-VAC 50
Vacuum Cleaning Portable

Now—for the first time—a heavy duty portable that can be operated anywhere. Use it for fast, efficient cleaning where strong exposure would be excessive—in outdoor areas—in widely scattered plant locations—and anywhere else that ordinary cleaners could not be used.

This 5 H.P. model provides 2 sweeper operating capacity and all other outstanding features of the electric motor driven Hoffco-Vac 950. Only exception is that power unit is a 4-cycle, single cylinder heavy-duty air-cooled engine rated at 6.8 H.P. (3.4 continuous). Flame arresting type muffler.

7½ CUBIC FT. DUST STORAGE CAPACITY
BUILT FOR HEAVY DUTY SERVICE

WRITE FOR BULLETINS A 794 & 803

AIR APPLIANCE DIVISION

W. S. HOFFMAN MACHINERY CORPORATION
103 Fourth Ave., New York 3, N. Y.
Canadian Plant: Canadian Hoffman, Newmarket, Ont.

IEN-11162

STOP watches

Yours free . . .

New 1950 catalog of internationally famous Clebar stop watches. Most complete line of stop watches in America . . . for every timing purpose.

In use by the foremost industrial firms, laboratories, colleges and athletic competitions.

MAIL COUPON TODAY!

Clebar Stop Watches meet and exceed the rigid specifications of the National Bureau of Standards.

CLEBAR Watch Agency

Clebar Watch Agency
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Please consider a FREE copy of the new 1950 catalog of the instruments known Clebar Stop Watches.

Name
Address
City State

IEN-11163

YOU can check them!

15 REASONS WHY the RELIANCE Pre-lubricated Bearing Design is BEST!

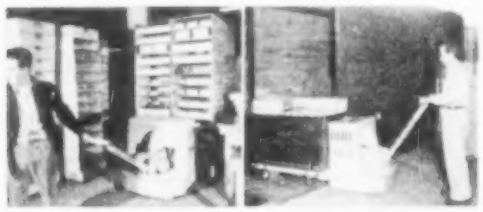
The Reliance Pre-lubricated Bearing Design has all of the features vital to maximum motor life. Get proof of this additional reason that all Reliance PRECISION-BUILT Motors are made *better*—to deliver dependable power longer! Write for NEW Bulletin B-2201 which features a convenient chart on which you yourself can check the 15 reasons why the Reliance Precision Bearing Design is the BEST one.

RELIANCE Electric Motors

RELIANCE ELECTRIC & ENGINEERING CO.
1072 IVANHOE ROAD CLEVELAND 10, OHIO
Sales Representatives in Principal Cities

"All Motors are NOT Alike"

IEN-11164



for narrow aisles for freight cars

NOW "STUBBY!"

for highway trucks

A SHORTER YALE WORKSAVER ELECTRIC TRUCK

Only "Stubby" Worksavers have all these advantages

- 6 inch shorter length
- Power-packed Drive Unit with improved motor efficiency
- New, Better Hydraulic "Dual-Lift" Mechanism
- Operational Controls centrally located on handle
- Easy steering, ball bearing steering ring with self-aligning features
- Double safe positive acting Safety Brake
- Wheels spaced, floor protecting dual trailing wheels
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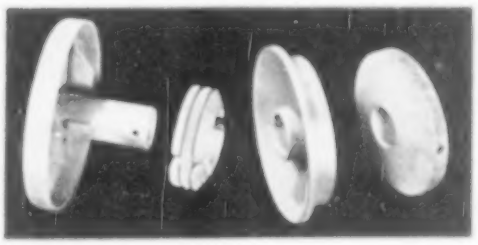
- No Clearing of Electrical Wires on handle control
- Spark Ex-hood Features available

THE YALE & TOWNE MANUFACTURING CO.
ROOSEVELT BOULEVARD PHILADELPHIA 15, PA.

IEN-11166

DRIVE . . Variable pitch sheave operates centrifugally as a clutch

Source: LIGHT INSPECTION CAR WORKS
P. O. Box 186-E, Hagerstown, Ind.



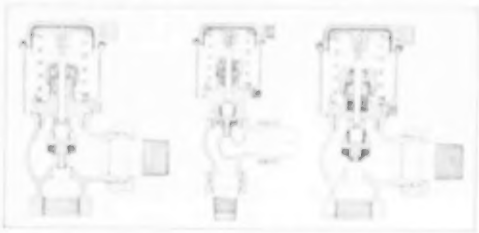
Four sizes

The four parts

IEN-11167

VALVE . . Diaphragm operated for steam and hot water radiators

Source: JOHNSON SERVICE CO.
505-9 E. Michigan St., Milwaukee 2, Wis.

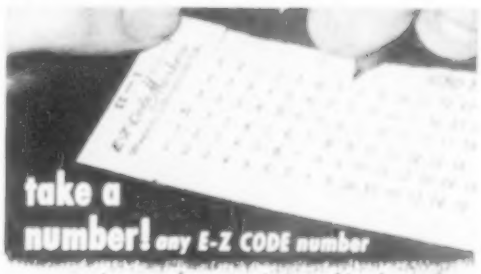


Three designs

Nominal ranges

Bulletin A-100.

IEN-11168



MONEY-SAVING IDEAS

E-Z CODE
WESTERN LITHOGRAPH CO., DEPT. IEN-11
8 SECOND ST., LOS ANGELES 54, CALIF.

IEN-11169

YOU CAN BE SURE . . IF IT'S Westinghouse

See why 1,000,000 Operations Fail to Phase MOTOR WATCHMAN

The new Motor Watchman has just won a mechanical life test conducted by a large machine company. After 1 million operations they gave up trying to break the starter down. It stood up where others failed.

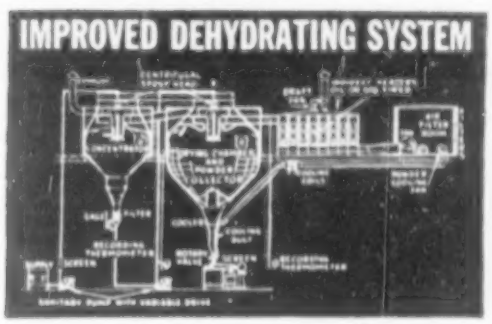
GET THE FACTS FREE

Get the complete story. See the initiating overload relay. Learn about "De-ion" arc quenchers. Read about Bonderized enclosures. Send for your free copy of Motor Watchman, B-4715. Or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania.

Westinghouse
"DE-ION" MOTOR WATCHMAN

IEN-11170

IMPROVED DEHYDRATING SYSTEM



Centrifugal Spray Dryer and Concentrator

For Dehydrating
Chemicals
Pharmaceuticals
Blood or Blood Plasma
Milk Products
Eggs
Vegetables
Coffee and many other Products

● A complete spray drying plant employing a unique centrifugal type spray head. No high-pressure pump is used, and due to the design of the spray head atomizer as well as solutions can be dried. No clogging or wearing of nozzles is caused by the suspended solids. The powder is collected and stored in the drying chamber.

Materials can be spun and so separate and be drying. Heavy products to smaller bulk density, degree of moisture, etc., and consequently increasing factory output. Gases are cleaned.

WRITE FOR FREE BOOKLET

Attractive bulletin illustrate and describe spray drying plants, explains operation in detail, shows plot views, equipment photos. Send for your FREE copy today.

DRYING & CONCENTRATING CO., 332 S. Michigan Ave., Chicago, Ill.

IEN-11171

Small HEACON DAMPER Applications that Pay for Themselves . . .

THERMIX HEACON

. . . IN FUEL SAVINGS
. . . IN REDUCING STARTING TIME LAG
. . . IN ELIMINATING ATTENDANT COSTS

A

Power is considered

Your original damper problems, large or small, can be solved by Heacon Dampers at a cost that will pay for itself in no time. Our engineers will be glad to show you how.

THE THERMIX CORPORATION
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Canadian Affiliates: T. C. CROWN, LTD.
1442 St. Catherine St. W., Montreal 25, Que. • 20 Alvin St., Toronto 3, Ont. Can.

GRAFFITI—Identify by IEN-11172 if you write the maker

What is the Cost of Handling Your Material *Manually?*

Deduct 50% or more when you switch to AUTOMATIC Electric Trucks!

Imagine what a saving like that could do to make your profit figure look better, your cost structure more in line with what it should be!

These amazing electric trucks lift, move and stack your material ceiling high with easy, finger-tip control . . . hundreds of pounds, or tons and more. One operator handles more material than three workers could by manual handling methods, releasing two men for productive, profitable work.

Find out how Automatic Electric Trucks will pay you a money saving, near-ceiling bonus every time you handle material. Write for catalog.

FREE! MATERIAL HANDLING CHECK CHART

This Money-Saver Check-Chart will tell whether you are paying too much for material handling . . . how Automatic Electric Trucks can cut your handling costs 50% to 75%. Write now, today, for your copy.

Trade Automatic Mark
109 West 87th Street, Dept. W-5
Chicago 20, Illinois

Trade Automatic Mark
ELECTRIC TRUCKS
Lift the cost's cause

GRAFFITI—Identify by IEN-11173 if you write the maker

Handling Costs Getting You Down?

LET SPEEDWAYS *GRAVITY* CONVEYORS CARRY *YOUR LOAD*

Here's the modern, efficient way to reduce material handling costs. Set up a line of Speedways Conveyors—and speed up movement, save back-breaking, inefficient, costly "man handling."

Speedways light duty Wheel Conveyors and SpeedTUBE Roller Conveyors—available in 12", 15", and 18" standard widths—can handle 90% of all cases, boxes, packages 5" and 10" length!

Write for literature that gives constructional details, tells about Speedways "Hi-Lo" feature that gives "Double Duty," shows simple hook up (without tools) and easy portability.

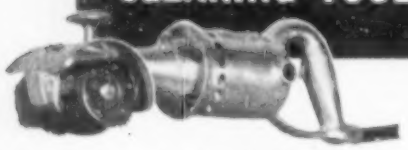
KEEP 'EM ROLLING WITH SPEEDWAYS CONVEYORS, INC.
1244 Niagara St.
Buffalo 13, N. Y.

Represented and carried in stock by experienced material handling equipment engineers in principal cities. Also manufactured in Canada.

GRAFFITI—Identify by IEN-11174 if you write the maker

Remove SCALE, PAINT, RUST Quickly . . . Easily

USE AURAND CLEANING TOOLS



It's easy to remove paint, scale, rust and other accumulations with AURAND Cleaning Tools. Powered rotary chipping does a thorough cleaning job in less time. No special skill required. Even depth surface is assured by an adjustable shoe control. Cutter heads are renewable.

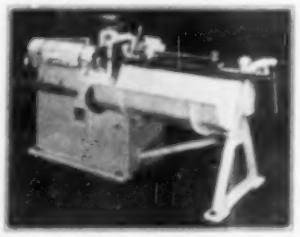
For further information, address Dept. 649

AURAND MFG. & EQUIP. CO.
2043 Colerain Avenue • CINCINNATI, OHIO

GRAFFITI—Identify by IEN-11175 if you write the maker

STRAIGHTENING . . And cutoff machine for 3/32 to 9/32 in. wire, to 19-1/2 ft.

Source: AMERICAN PULLMAX CO.
2611 N. Western Ave., Chicago 47, Ill.



Wire enters through a rotary straightening head from a supply reel and moves to the right as this new machine. When the end reaches an adjustable stop a cutting head is actuated. The cut length drops into a receiving tray. The head is ball bearing.

Gears are made of alloy steel. Rollers and guides are hardened and ground. Feed is adjustable between 56 and 181 fpm. Various wire, based on max. cross capacity of the receiving tray, start at 20% and increase to 95%, steps to the max. (none of 19% is which represents the machine capacity).

GRAFFITI—Identify by IEN-11176 if you write the maker

EXPANDING . . Roll type tool for tubes, electronic drive control

Source: CRANE PACKING CO.
1815 Cuyler Ave., Chicago 13, Ill.

Ask for 8 page Bulletin Tube Rolling Control

John Crane trade names two design of the company's tube expanders with electronic control, previously described IEN-C29-10. The new equipment is available with two controls known as Model 200 and Model 201. The former is for left-hand tubes as employed in condensers and heat exchangers in which tube diameter is under ½ inch. The latter applies to ½ to 2½ O.D. tubes made of ferrous and non-ferrous metals. A Type 2 C tool applies with the electronic control. Either of these tools, Type 2 A and 6 B, can be used with the latter control.

Operation is on 110 volt 60-cycle a.c. for operation of the control and the rotating tool drive. Need for skill on the operator's part is eliminated by the electronic action which starts the drive to prevent over or under expanding. Illustrated detail information is available in new literature the company has published. It will be sent on request.

GRAFFITI—Identify by IEN-11177 if you write the maker

TRUCK . . Caster mounted dump body for use with a power litt truck

Source: PALMER-SHILE CO.
16009 Fullerton Ave., Detroit 27, Mich.

Dimensions and load rating are subject to specifications in this new design of rocking type dump truck. It is intended for use with a power lift truck of practically any fork design and can be moved on its own castor wheels in confined locations. The body is self-weighting after it has dumped its load. It locks in level position by means of a release latch.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

GRAFFITI—Identify by IEN-11178 if you write the maker

Suzy the stock girl says...

"IT'S A CINCH to move materials in these containers!"

• And she's right! Women can move materials easily and fast with Diamond Fibre. That's because these containers are made of unusual plastic as much as aluminum! Diamond Fibre is so tough it doesn't crack, splinter, or peel. Barrels, cans, and other containers of Diamond Fibre have a hard surface that will not mar delicate fabrics. Write for the most comprehensive Receptacle Catalog, now.

C-D DIAMOND FIBRE RECEPTACLES
CONTINENTAL-DIAMOND FIBRE CO., NEWARK 21, DEL.

GRAFFITI—Identify by IEN-11179 if you write the maker

A FAN FOR EVERY NEED

ROBINSON "Wall Type" FANS

There is one of these ruggedly constructed heavy duty fans to suit every need—a small mill office, requiring only a few hundred cubic feet of air per minute—or a complete department or building requiring "thousands" of cubic feet of air per minute.

These units are assembled in square brattice frames to facilitate installation.

Place your ventilating problems in the hands of our engineers.

ROBINSON VENTILATING CO.

Manufacturers of Fans and Ventilating Machinery for over fifty years.

Ask for Bulletin No. 7200

ZELIENOPLE PENNSYLVANIA

GRAFFITI—Identify by IEN-11180 if you write the maker

"Discover how wonderfully small trifling expenses mount up to large sums."

—Ben Franklin's Almanac, 1737

A single per cent saved here and another per cent saved there strengthens 70y workings capital for the coming year.

—Acme Steel Handbook, 1950

Improved efficiency . . . greater thrift! For better than 70 years, Acme Steel methods and Acme Steel products have been helping American business obtain the benefits of these tried-and-true business virtues.

Almost every American industry is represented among Acme Steel's more than 50,000 customers, particularly in departments and operations concerned with packaging, shipping and materials handling.

For information on Acme Steel products, write on your business letterhead for free booklets on the specific products in which you are interested.

ACME STEEL COMPANY

Dept. IEN-1110, 3838 Archer Avenue, Chicago 8, Illinois
Have you 40 Acme Steel service offices in the U.S. and Canada.

ACME STEEL

Stick metal like paper! Acme Steel Metal Strapping Machine, Model 50-Series, automatically applies, tightens and seals steel strapping around packages, like the machine shown above. Write for "A Quick Look."

ACME STEELSTRAP flat steel strapping and ACME UNIT-LOAD coated-strapping BAND, SEALS and TOOLS • ACME SILVERSTITCHER machines • ACME SILVERSTITCH stitching wire • ACME-MORRISON METAL STITCHERS and BOOK STITCHERS • ACME-CHAMPION BAG STITCHERS • ACME HOT AND COLD ROLLED STRIP STEEL • ACME GALVA-BOND steel slat stock for Venetian blinds • ACME STEEL SPECIALTIES, including hoops, corrugated fasteners, roll-on strapping and other container reinforcements • ACME STEEL ACCESSORIES—snips, cutters, punches, tool mounts, reel stands, coil holders, coil trays.

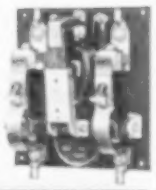
▼ BRIEFIT—Identify by IEN-11182 if you write the maker ▼

Performance . . .

Zenith means "highest point." This literally describes Zenith dependability, "on the dot" as shown by records of long trouble-free, maintenance-free service in widest range of control uses.

Zenith automatic controls

Cover the field: Magnetic Contactors, Remote Control, Reset Interval and Process Timers, gear-less, clutchless Impulse Timers, Program Clocks—also special equipment for your special needs.



WRITE NOW FOR COMPLETE CATALOG!

ZENITH ELECTRIC CO.
146 W. WALTON ST., CHICAGO 10, ILLINOIS

▼ BRIEFIT—Identify by IEN-11183 if you write the maker ▼

No Special Wiring... with IBM Electronic Time Control

ELECTRONIC—no special clock or signal wiring. Time systems operate and are supervised by electronics over regular AC lighting wires.

ECONOMICAL—low installation cost. Time units can be re-located easily without special clock or signal wiring.

EFFICIENT—automatic coordination of clocks, recorders, and signals to the second. Uniform time is assured in all units.

Write for information today

INTERNATIONAL BUSINESS MACHINES CORPORATION
590 Madison Avenue, New York 22, N. Y.

▼ BRIEFIT—Identify by IEN-11184 if you write the maker ▼

STOP TAKE-UPS and DOWN-TIME with...

Does More Work Because IT HOLDS TENSION!

Lasts Longer Because of LESS SLIPPAGE!

Greater Pulley Grip of Cordan Leather Belting Delivers More Power and MORE PRODUCTION!

Write TODAY for descriptive, illustrated literature.

ESTABLISHED 1881 S. R. SIKES COMPANY
MINNEAPOLIS 15, MINNESOTA

▼ BRIEFIT—Identify by IEN-11185 if you write the maker ▼

VENTILATING . . Axial flow fan in belt and direct drive assemblies

Source: ROBBINS & MYERS INC.
1342-47 Lagonda Ave., Springfield 99, Ohio

Type VCDD and Type VCS are now belt-drive and direct-drive designs in the company's Vaneaxial line of duct-or-scoop axial flow fans. Both are available in 20 and 24 in. blade diameters. Length measured over the duct section is 30 inches. The belt-drive assembly is available with ½ to 3-hp. motor for the 20-in. unit, 1 to 3 hp. for the 24-in. fan. Capacity ranges from 1,200 to 10,780 cfm against 1 in. of static water pressure. The direct drive unit takes 1 and 2 hp. motors in the two sizes. It takes 1,040 and 2,000 cfm against 1 in. Motor speed is 1,725 rpm. in each case.

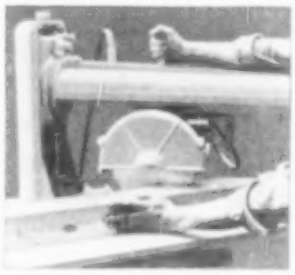
The fan assembly starts with a spun aluminum diffuser hood on the intake side of the propeller which is a 10-blade cast aluminum unit. The propeller delivers through a cast-aluminum air-foil guide vane unit mounted in stationary position to straighten the airstream. Back of it is the factory-lubricated and sealed ball-bearing motor and on the air-delivery side of the motor is a spun aluminum tail cone to eliminate swirling in the discharge. In the belt drive unit a cone-like housing behind the tail cone to enclose the drive unit and carry the fan shaft.

Bulletin 785, 8 pages, presents illustrated descriptions with data on dimensions, capacities, specifications, ordering information.

▼ BRIEFIT—Identify by IEN-11186 if you write the maker ▼

WOOD WORKING . . Radial saw rides ball bearings in supporting arm

Source: J. D. WALLACE & CO.
146 S. California Ave., Chicago 12, Ill.



Superaw No. 18 designed with an accuracy of the company's radial sawing machines which the operating head rides. Chrome steel ball bearings on supporting bars in the radial arm. These bearings employ a cylindrical raceway in which straight rows of the balls ride against the bars on one side and return in lines that are lifted for clearance from the bars. Position of the narrowest under the arm is practically eliminated.

The machine is available with 2 and 3-hp. motors to drive 10 and 12-in. blades respectively. Cut depth rates 3½ and 4½ inches. Movement under the radial arm is 10½ inches. The arm can be rotated on the column through a complete circle to position the blade. The column and arm also rotate through a circle for universal positioning.

Of Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 56

▼ BRIEFIT—Identify by IEN-11187 if you write the maker ▼

Can your product use this advantage?

Then it will pay you to investigate POWER PRODUCTS engines

Outstanding among the many features of Power Products Engines is exceptional lightweight—some models are as much as 20 pounds lighter than competitive engines of similar horsepower. Extreme reliability—positive mist type lubrication—simple maintenance and quality construction features make these engines ideal for a wide range of applications.

Illustrated:

MODEL 350 Twin 2-cycle vertical shaft engine. Range of sizes in both vertical and horizontal engines available.

Engineering service includes modifying engines within design limits to suit your requirements.

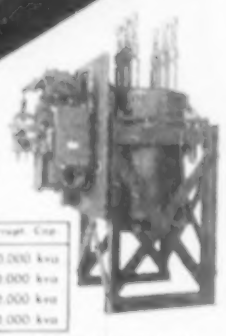
Write for full information and specifications to Dept. I-11.

POWER PRODUCTS CORPORATION
Grafton, Wisconsin

▼ BRIEFIT—Identify by IEN-11188 if you write the maker ▼

FOR 100,000 TO 500,000 KVA INTERRUPTING CAPACITY

Specify ALLIS-CHALMERS TYPE DZ INDOOR OIL CIRCUIT BREAKERS



Rated KV	Rated Amps.	Interrupt. Cap.
7.2	600, 1200, 2000	100,000 kva
13.8	600, 1200	150,000 kva
13.8	1200	250,000 kva
13.8	1200, 2000	500,000 kva

CONTACT DESIGN gives you the advantages of single-break *Rapior* interrupting device — long-lasting special alloy arcing contacts — self-cleaning, silver plated main contacts.

Automatic or manual trip. Solenoid closing. Fully tested at factory, shipped complete, ready to install.

Can be used in existing cell structures where increased capacity is needed. Bulletins 71B6129D and 71B6179C.

Rapior is an Allis-Chalmers trademark. A-810

ALLIS-CHALMERS, 909A SO. 70 ST.
MILWAUKEE, WIS.

ALLIS-CHALMERS

▼ BRIEFIT—Identify by IEN-11189 if you write the maker ▼

At the Crompton & Knowles Looms Works
WORCESTER MASS.

Every drawing is reproduced on KODAGRAPH AUTOPOSITIVE PAPER

HERE'S WHY: Crompton & Knowles, world's largest manufacturer of specialty looms, considered the dollars invested in its engineering drawings. Then they considered Kodagraph Autopositive Paper — its low price — the fact that it produces positive photographic intermediates *directly*. They realized that by using "Autopositives" as their blueprint masters they could protect their drawings — cut rebuilding costs. And, at the same time, simplify their filing system.

200,000 detail drawings — 4 to 8 drawings per sheet of paper—were in their files. These were reproduced on "Autopositive." Then the prints were cut, and filed in sequence—an impossibility before. In addition to increasing protection, this move made possible faster reference — reduced blueprint paper waste.

All new drawings are also reproduced on "Autopositive." The company blueprint machine is used for the exposure operation, standard photographic solutions for development. *No negative strip, no darkroom handling.*

Blueprint production is easier, too, they find. Their "Autopositives" have an evenly translucent high-quality paper base and dense photographic black lines, which will not smudge or lose opacity. Result—sharper, cleaner blueprints are produced at uniform, practical machine speeds.

Kodagraph Autopositive Paper

"THE BIG NEW PLUS" in engineering drawing reproduction

Write today for new, free booklet telling all about Kodagraph Autopositive Paper, which you, in your local blueprinter, can process conveniently, economically.

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak

IEN-11191

How Production-Wise Manufacturers

SAVE SANDING COSTS

ON LAND

ON THE SEA

Abrasive Products, Inc.

IEN-11192

MINES MOLDED RUBBER CONNECTORS

Molded of rubber as one integral unit, MINES plugs, receptacles, jumpers, etc. have many inherent advantages over metal sources, molded phenolic or plastic types. Before you buy, it will pay you to learn how these worth while features can make your electrical transmission lines safer, more efficient, longer lasting.

1 One piece Cable-Connector Assembly
2 Safer Long Wearing Neoprene Jacket
3 Low Resistance Contacts
4 Moisture and Dust Proof Seal

These and many other worth-while advantages make MINES Molded Rubber Connectors outstanding—send for FREE copy of illustrated Connector Price List.

MINES EQUIPMENT Division
JOY MANUFACTURING COMPANY
HENRY W. OLIVER BLDG., PITTSBURGH 22, PENNA.

IEN-11193

World's Most Widely Used

PORTABLE DIAL SCALE

TOLEDO
HEADQUARTERS FOR SCALES

IEN-11194

PRESS . . Double acting hydraulic, separate ram and blankholder circuits

Source: CLEASING MACHINE CORP.
6491 W. 65th St., Chicago 38, Ill.

New design . . .

Operation . . .

IEN-11195

CORROSION PROOFING . . Paper, chemically treated for packaging use

Source: CHIPPEWA PAPER PRODUCTS CO.
3313-17 W. 48th Place, Chicago 38, Ill.

For "vapor phase" packaging uses.

Chippaflex VPI . . .

The paper . . .

IEN-11196

DUST COLLECTING . . Filter element removes dust from motor cooling air

Source: AIR FILTER CORP.
106-10 N. Water St., Milwaukee 2, Wis.

New element . . .

IEN-11198

For Quick, Tight Connections on Field or Factory Air Hose

"AIR KING"

Quick-Acting, Universal Type

HOSE COUPLING

A strong, durable coupling (aircraft) useful where quick, convenient change-overs are required. Flush design—no parts to get out of order or clogged with dirt. Made in brass and steel and fitments threaded pipe ends. Completely interchangeable. Patented, safety locking device is proof against vibration and rough handling. Malleable iron (cadmium plated) or brass.

Sold by Manufacturers & Jobbers of Mechanical Rubber Goods

DIXON VALVE & COUPLING CO.
HANCOCK ST. and COLUMBIA AVE., PHILADELPHIA 22, PA., U.S.A.
BRANCHES: CHICAGO • BIRMINGHAM • LOS ANGELES • HOUSTON • TORONTO

IEN-11199

Chances are good that hard-working Masonite Hardboards can help crack your tough product and production problems—as they have on a variety of jobs in every industry.

These versatile, easy-to-work panels of wood-made hardwood 28 separate and distinct advantages. To name a few: they can be drilled, sawed, routed, bent . . . are equally strong in two directions . . . won't rust or corrode . . . take and hold more any finish . . . permanently resist moisture.

Different types and thicknesses are available. Also available to our engineering staff . . . ready at all times to help with your particular problem. It costs nothing to . . .

MASONITE CORPORATION
111 West Washington Street, Chicago 2, Illinois

IEN-11197

DURKEE-ATWOOD BULK SPONGE RUBBER FOR "SPECIAL" JOBS

DURKEE-ATWOOD COMPANY
Dept. 57, Minneapolis 13, Minn.

IEN-11200

SAVE MANPOWER

ELIMINATE Tool & Die Breakage

INCREASE PRODUCTION

YOU CAN DO THESE WITH

PROTECTRON

Protectron is your guarantee of unfailing protection in guarding against tool and die breakage.

Protectron senses minute increases in machine load and automatically stops machine before damage is done.

The reliable performance of Protectron enables one man to operate four machines. Releasing those men for other work is a vital factor in increasing production.

Protectron is adaptable to almost every automatic operation where damage to tools, dies and equipment would mean expensive replacement and loss of valuable production time.

It can't happen with Protectron

The Brinnell Company
GRANBY, CONN.

IEN-11201

Stop DUST Irritation with

new sensational **FLEX-A-FOAM**
— FILTER MASK —

Easier to breathe through and talk through than an ordinary handkerchief . . yet filters non-toxic nuisance dusts as small as 1/25000 of an inch!

- Extremely light in weight – only 1 ounce complete.
- Self-adjusting to every face size.
- Simple in design with only 4 interlocking parts.

SAMPLE $1.50 POST PAID

Dust protection your workers will welcome and WEAR!

Write TODAY for descriptive circular

THE GOGGLE PARTS COMPANY
1468-70 W. 9th St. • Cleveland 13, Ohio

IEN-11202

ELIMINATE THE GREATEST FIRE HAZARD IN YOUR BUILDING

WITH

ELSCO

SAFETY ELEVATOR ROLLER GUIDES

They pay for themselves over a short period of time in electric current savings and economy of maintenance! Eliminate fire risk, safer ride, smoother ride!

A. Tests under a multitude of conditions indicate a savings in electric current of between 24% and 44%.

B. Hatchways no longer need constant cleaning to remove inflammable grease, dirt, fuzz and filth.

C. Elsco Roller Guides often save the cost of new rails or costly realignment of old rails. Elsco Guides roll and do not slide.

D. Because of dry rails, emergency safety jaws hold better in the event of accident.

E. Elsco Roller Guides give a smooth, gliding ride.

Elsco Safety Roller Guides have been in successful operation since 1941. Approved unanimously by the Board of Standards and Appeals of N.Y.C. up to 1000 fpm. Adaptable to passenger and freight elevators—new or old installations of capacity or speed, installed in leading buildings from coast to coast and abroad. The only safety roller guide with oscillation machine and knee action.

YOU OWE IT TO YOUR BUILDING TO INSTALL THE NEW ELSCO SAFETY ROLLER GUIDES

For further information inquire of your dealer or

ELEVATOR SAFETY CORP. 165 BROADWAY • NEW YORK 6, N. Y.

SAFETY WITH SAVINGS

IEN-11204

RHEOSTAT . . Variable potentiometer for voltage control in test operations

Source: A. F. SMUCKLER & CO.
200-204 Tillary St., Brooklyn 1, N. Y.

Vari-Fine Gun [illegible]

Overall range [illegible]

IEN-11205

PUMP . . Motor driven centrifugal rates 10 to 500 gpm., head to 220 ft.

Source: ALLIS-CHALMERS MFG. CO.
909 S. 70th St., Milwaukee 14, Wis.

Cast-iron frame [illegible]

A single shaft [illegible]

Bulletin [illegible]

All Makes of Pipe and All Other Products Are Listed In THOMAS' REGISTER — Description — Ratings — See Page 16

IEN-11206

BUCKINGHAM... Thread RESTORERS

Just slip on, tighten and turn. That's all there is to it—it's that simple . . . and quick . . . And what results!

Flats and nicks are eliminated—worn heavily rusted and corroded threads are instantly gauged. See more drilling or lock wiring to replace damaged nuts through—when you have a Buckingham Thread Greater handy.

Follows the pitch of any right or left hand thread—sizes range from ¼" to 4" (not illustrated). No need to insert or change dies. Cutting goes without saying to proper size on the threads. See your nearest Buckingham Tool Dealer—and write.

[illegible]	[illegible]	$ [illegible]
[illegible]*	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]*	[illegible]	[illegible]

(Short swing type.

BUCKINGHAM MANUFACTURING CO., INC.
49-51 Travis Street Binghamton, N. Y.

IEN-11207

Do You Believe in Miracles?

You can perform a few miracles by installing Schrader Air Ejection Sets on your Power Presses and other production machines—lower a few dollars and a few hours' time then watch your production go up like a KITE.

The Schrader Air Ejection Set eliminates manual or mechanical unloading and increases output by making time-consuming removal of work. A manufactured Air Saving Device—operates at a minimum of air consumption. Four types to meet all requirements.

For work that is too heavy or large to be ejected by an Schrader supplies a Cylinder Ejection Set that can be timed to operate with each actuation of the machine and eject work as rapidly as the machine can be run.

Write for more information about Schrader Air Ejection Sets today. For information about hundreds of other Schrader Products Press Controls, Air Cylinders, Valves, Air Filters, etc., write for 72 page catalog.

Schrader PRODUCTS CONTROL THE AIR

A. SCHRADER'S SON
[illegible] Vanderbilt Avenue
BROOKLYN 17, N. Y.
Division of Scovill Manufacturing Company, Incorporated

IEN-11208

Pheoll MACHINE SCREWS
Save assembly time
on
MASS PRODUCED PARTS

Whether you manufacture automobiles, radios, electrical controls, appliances, stoves, washers, dryers or any other assembled products, you can speed production by using Pheoll machine screws and nuts. Count also the added bonus you receive by using fasteners that improve product appearance.

PHILLIPS RECESSED HEAD MACHINE SCREWS
Round, Flat, Fillister, or Oval Heads.

SLOTTED HEAD MACHINE SCREWS
Round, Flat, Fillister, Oval, Washer, Binding or Truss Heads.

HEXAGON HEAD MACHINE SCREWS
In steel or brass and in a full range of sizes are immediately available from Pheoll stocks. Standard, special, ornamental head types are made to order in any metal.

OTHER PROFIT PRODUCING PHEOLL PRODUCTS
Fitting Screws • Tuning Wind Screws • Stove Bolts Lag Screws • Brass Washers Special Threaded Products

Pheoll MANUFACTURING COMPANY • [illegible] Kolmar Road Chicago 30, Illinois
SCREWS • BOLTS • NUTS — *Industrial Fasteners and Holding Devices*

IEN-11209

WHEN YOU NEED STEEL CALL RYERSON

Contact Ryerson for prompt shipment of dependable steel products. Because of great demand, all sizes are not always in stock, but you will find that we can usually take care of your requirements.

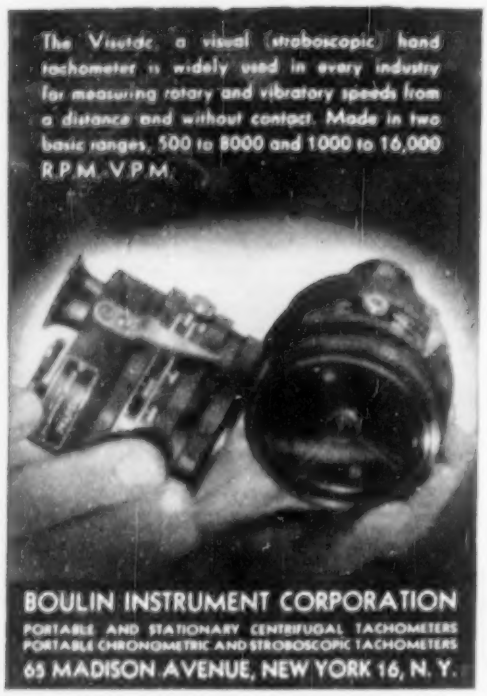
PRINCIPAL PRODUCTS

Bars • Structurals • Plates • Sheets • Tubing • Alleghany Stainless • Alloy Steel • Safety Floor Plate • Babbitt • Solder Metal Working Tools & Machinery, etc.

JOSEPH T. RYERSON & SON, INC

Plants: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Los Angeles, San Francisco

▼ BRIEFITS—Identify by IEN-11210 if you write the maker ▼



▼ BRIEFITS—Identify by IEN-11211 if you write the maker ▼

CUT PRODUCTION and MAINTENANCE COSTS

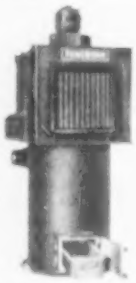
with these inexpensive, ready-to-use Pangborn Blast Cleaning and Dust Collecting units you earn extra profits where custom-built equipment is not practical.

BLAST CLEANING CABINET

BLAST CLEANING CABINETS $315. and UP

BLAST CLEANING MACHINE

BLAST CLEANING MACHINES $170. and UP



UNIT DUST COLLECTOR

UNIT DUST COLLECTORS $286. and UP

HYDRO-FINISH CABINET

HYDRO-FINISH CABINETS $1295. and UP

Look to Pangborn for the Latest Developments in Dust Control and Blast Cleaning Equipment

MAIL COUPON TODAY!

PANGBORN CORP. 1200 Pangborn Blvd., Hagerstown, Md.
Gentlemen: Please send me further information on—
BLAST CLEANING CABINETS — UNIT DUST COLLECTORS
BLAST CLEANING MACHINES — HYDRO-FINISH CABINETS
I am interested in the possibility of using one of these machines for:

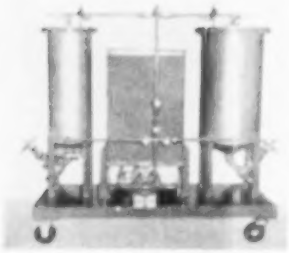
NAME
COMPANY
ADDRESS
CITY STATE

Pangborn

▼ BRIEFITS—Identify by IEN-11213 if you write the maker ▼

FILTERING . . Portable equipment, permanent elements for corrosive fluid

Source: TITEFLEX INC.
593 Frelinghuysen Ave., Newark 5, N. J.



Two chambers for filtering acetone, one with 10 and the other 20 sq. ft. of area, are connected with a motor-driven pump and a general tank to form new portable equipment. It is now design of the unit pre-[illegible] Heavy-duty [illegible] 222 gr. One pump is arranged so operation can be accomplished for 20 to 40 sq. ft. of filtering area required.

Each chamber contains replaceable elements made of Type 316 stainless for 20 to [illegible] Tubes mounted on a perforated metal [illegible] with a sealing ring at each end. The element cannot [illegible] The filter is [illegible] as required for back-cleaning.

▼ BRIEFITS—Identify by IEN-11214 if you write the maker ▼

PAINTING . . Transparent plastic for brass, chromium, gold, iron, nickel

Source: UNITED LACQUER MFG. CORP.
1003 W. Elizabeth Ave., Linden, N. J.

Two types are satin and flat

Base 1[illegible]-28 is a new clear plastic lacquer for applications on products such as hardware for spray or dipping. It air dries to [illegible] in about 20 minutes and will become hard overnight. It bakes hard at 250 deg. F. in 30 minutes.

The transparent film is resistant to attack by perspiration. It can be handled without marring. It will not yellow, [illegible] and can be tinted to give gold or aluminum a gold or brass appearance.

▼ BRIEFITS—Identify by IEN-11215 if you write the maker ▼

LOCOMOTIVE . . For yard duty, engine drive, hydraulic transmission

Source: PLYMOUTH LOCOMOTIVE WORKS DIVISION
101 Pine St., Plymouth, Ohio

The company announces availability of specifications of a torque-converter hydraulic transmission for its line of engine-driven yard locomotives. The line includes units with 27½ to 70-ton ratings. The transmission, which between the engine and the final drive to provide the flexible variable connection that will cushion shock, protects starting the engine and provides torque for variable output to meet varying load requirements. A reversing is steady and [illegible]-stepped. Gear shifting is eliminated in operating the transmission.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 16

▼ BRIEFITS—Identify by IEN-11216 if you write the maker ▼

DONALDSON *Streamlined* MONO-SEAM Gas Tanks

ADD SALES APPEAL TO YOUR PRODUCT

Highly resistant to [illegible] and vibration

Extra heavy . . Heavy duty. New [illegible] Mono-Seam gas tanks fulfill all requirements for heavy [illegible] duty service. They are produced from extra deep-drawn quality steel [illegible] giving them maximum strength. Rigid, with zero end seam. Donaldson Mono-Seam tanks resist abrasion better. Each tank is protected [illegible] Donaldson Mono-Seam construction [illegible] and is more than twice as strong as other tanks with girth seams. Tanks are available in sizes from [illegible] to 5 gallon capacity. Many [illegible] in stock, [illegible] and [illegible] shipment currently being produced [illegible] Donaldson Custom-built tanks to special needs can often be produced from existing tools and dies. Mounting brackets usually [illegible]

Write for Specifications or engineering assistance

DONALDSON COMPANY Inc.
666 Pelham Blvd. St. Paul 4, Minnesota

▼ BRIEFITS—Identify by IEN-11217 if you write the maker ▼

FABRICATIONS and FITTINGS Accurately Built to Your Specifications

Shown here are fabrications typical of the service provided by Naylor engineers. Special bends, manifolds, piping and other equipment from simple units to the most complicated layouts can be precision built to meet your most rigid requirements.

Write for details or send specifications for quotation.

NAYLOR PIPE COMPANY
1235 East 92nd Street, Chicago 19, Illinois
New York Office: 350 Madison Avenue, New York 17, N. Y.

▼ BRIEFITS—Identify by IEN-11218 if you write the maker ▼

What's Your **PANEL INSTRUMENT** *Problem?*

No matter what your panel instrument problem is, Simpson Electric Company engineers will be glad to help you solve it. Every day they are confronted with individual design problems.

Behind every Simpson instrument is a world-wide reputation for quality. Simpson movements have greater ruggedness and accuracy, because of the full bridge-type construction and soft iron pole pieces.

When Simpson helps you with your problem, you benefit from this world-wide reputation and the years of experience of Simpson engineers.

Let Simpson engineers help you with your next instrument problem and for your standard instrument requirements take advantage of our large stock, available for immediate delivery.

SIMPSON ELECTRIC COMPANY
5200-18 WEST KINZIE STREET, CHICAGO 44, ILLINOIS
IN CANADA: BACH-SIMPSON, LTD., LONDON, ONTARIO

▼ ARRIVITI—Search by IEN-11220 if you write the maker ▼

4 TIMES HIGHER SNAG RESISTANCE

(standard needle test)

SURETY

SURESEAL
Synthetic Rubber
INDUSTRIAL GLOVES

plus.. 4 times higher abrasion resistance, much higher chemical resistance — Sureseal Synthetic Rubber is miles ahead on all counts. That's why Sureseal Gloves give you longer wear, greater hand safety, much lower glove costs.

For an extra margin of safety, extra protection against dermatitis, get Sureseal Gloves with Surety's patented Turn-Cuff — cuff turned up prevents liquids from running into arms or inside gloves, cuff turned down gives two-inch longer protective gauntlet.

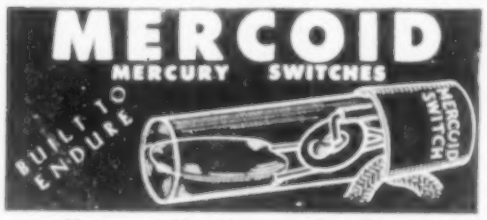
Ask your distributor about Sureseal Gloves — or write direct.

THE SURETY RUBBER CO. DEPT. I

In Canada
SAFETY SUPPLY COMPANY
Toronto, Ontario

▼ ARRIVITI—Search by IEN-11221 if you write the maker ▼

MERCOID
MERCURY SWITCHES



Universally Known for Their Superior Quality and Workmanship

They are not affected by dust, dirt or corrosion and have many definite applications where open contacts are not suitable. Various types available. MERCOID is your guarantee of the best in mercury switches. Further information sent upon request.

LET MERCOID SOLVE YOUR CONTROL PROBLEMS

They rank first for convenience of adjustment, dependable service and long life.

They are designed for precise applications requiring the control of pressure, temperature, liquid level and mechanical operation.

THE MERCOID CORPORATION, 4201 BELMONT AVE., CHICAGO 41, ILL.

▼ ARRIVITI—Search by IEN-11222 if you write the maker ▼

Its all in the *Heat Treatment*

ORIGINATORS OF THE SUPER SAFE STEEL STAMPS

The "Tough" back to absorb hammer blows without cracking or breaking. The "SOFT" center to resist the shock. The "HARD" tip to resist tension impression and a longer lasting edge than the RICK life lasting alloy stamp. These stamps are made in ANY type to fit ANY holder.

We are the manufacturers of:
- Genuine knurling and marking wheels
- Universal plastic molds
- Name stamps
- Designs and trade marks
- Embossing dies
- Various Measure Tapes and Tools

WRITE TODAY FOR ILLUSTRATED INFORMATION

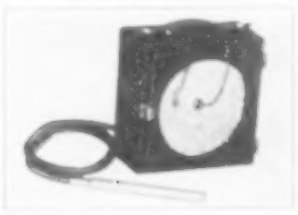
MARKING DEVICES RICK CUTTING TOOLS

PITTSBURGH STENCIL and TOOL COMPANY
405 PENN AVENUE • PITTSBURGH, PA.

▼ ARRIVITI—Search by IEN-11223 if you write the maker ▼

THERMOMETER . . Traces record on 4½ in. chart, 24 hr. to 7 days

Source: WESTON ELECTRICAL INSTRUMENT CORP.
612-16 Frelinghuysen Ave., Newark 5, N. J.



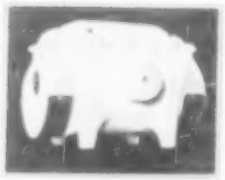
Model 6125 is a new one in the Magnesyn line of recording thermometers with a [illegible] element that can be supplied for 24-hr., 7-day or 7-day operation. The mechanism is characterized by [illegible] features. Note of vibration so it can be employed to make an accurate record in a moving refrigeration truck or car. Fifteen available ranges are minimum at minus 50 to plus 20 deg. F., maximum at plus 30 to 130 deg. F.

The housing measures 5¾ by 4¾ by 3¾ inches. It encloses the temperature-sensitive element or connects to an external one as shown in the illustration. Weight is 2½ pounds. Other units in the line include a two-pen assembly to record on-off periods for the refrigerating equipment as well as the temperature on the same chart. One is made also to record vacuum and pressure or pressure only.

▼ ARRIVITI—Search by IEN-11224 if you write the maker ▼

MOTOR . . Squirrel cage ac., sanitary design, 3 to 20 hp., ratings

Source: U. S. ELECTRICAL MOTORS, INC.
202 E. Slauson Ave., Los Angeles 54, Calif.



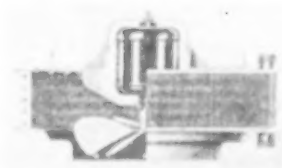
New design employing a new patented unitized-proof end brackets has been added to [illegible] 3 to 20 hp. to the company's previously introduced totally-enclosed, sanitary motor. The new units operate at 30 deg. F. rise and are available in 2- and 3-phase designs for operation on 220, 220-440 or 550 volt alternating current. The 20 hp. does it 3-phase construction for operation at 3,600 rpm. The others are in 4-pole design rated for 1,800 rpm.

Picture Bulletin, Form 1007, 4 pages with technical information and illustrations of many typical installations.

▼ ARRIVITI—Search by IEN-11225 if you write the maker ▼

HEATING . . Steam heated space unit, fan equipped for downward air delivery

Source: TRANE CO.
2017 Cameron Ave., La Crosse, Wis.



Air is drawn in [illegible] Capacities [illegible]

▼ ARRIVITI—Search by IEN-11226 if you write the maker ▼

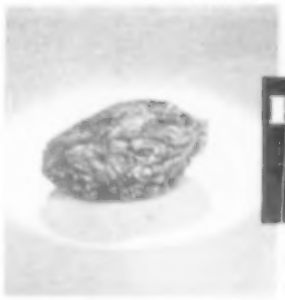
DRILLING . . Multiple-spindle head, adjustable design, mounts 8 spindles

Source: COMMANDER MFG. CO.
4223-27 W. Kinzie St., Chicago 24, Ill.

New design of the company's drilling head, previously described IEN-8214-50, includes a set of extension spindles with [illegible] for increasing the effective capacity of the head in increased 0.375 inches. The new spindles are interchangeable with the standard units. Individual spindle capacity is ¼ inch. Minimum centers between spindles is ¾ inch. The head is shown in place on a drilling machine equipped with a Dri-Bell Harvard pneumatic feed, previously described IEN-9606-50.

Drill head [illegible]

▼ ARRIVITI—Search by IEN-11227 if you write the maker ▼



PICTURE OF A PRUNE

DRIED UP, isn't it? Just like wood, paper, textiles, leather, foodstuffs or other hygroscopic materials you process or store during the winter when indoor relative humidities go as low as 10%. Weight loss, quality loss, production difficulties — you know the problems.

Accounting Steam Humidifiers cut dry air problems, automatically maintain any relative humidity you require. Installed like steam heaters they operate for a few pennies per day. Priced as low as $120 complete for a unit to humidify up to 10,000 cu. ft. SATISFACTION GUARANTEED. Order now for a full season benefit.

SEND FOR BULLETIN 1772

32 pages packed with useful information, tables, diagrams, data, prices. Yours on request.

ARMSTRONG MACHINE WORKS
888 Maple St., Three Rivers, Michigan

▼ ARRIVITI—Search by IEN-11228 if you write the maker ▼

How to get rid of ACCUMULATED AIR

in pipe lines carrying hot or cold water, industrial liquors, sewage and other liquids

The accumulation of air in water lines under pressure presents the engineer with many problems. Air lodging in pockets in the line reduces the effective area of the pipe, causes a drop in head, lowers the entire line's pumping capacity, and may result in severe water hammer.

Simplex Air Release Valves bring a new, efficient method for these difficulties. Easy to install, simple in design, positive in operation — they send air automatically into the atmosphere. The head loss due to air is minimized and the pump capacity increased.

Simplex Air Release Valve

The Simplex Air Valve is easily installed ..... positive in action ..... simple in capacity. Standard valves for pressures up to 250 p.s.i. ..... special valves for pressures up to 600 p.s.i. Thousands have been in successful use for over 30 years.

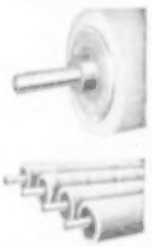
Write for data bulletin on Simplex Valve & Meter Co. Inc. Dept. 11, 4653 Ravenna St., Pico, Calif.

IT'S SIMPLEX IT'S ACCURATE

SIMPLEX
VALVE AND METER COMPANY

▼ ARRIVITI—Search by IEN-11229 if you write the maker ▼

MANY INDUSTRIAL **ROLL** PROBLEMS are solved by using



SHAF-TITE* ROLLS

Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel, plastic, etc. Whatever your roll problem, put it up to Rodney Hunt.

SEND FOR NEW CATALOG NO. 48
More complete publication of its kind

Industrial Roll Division
RODNEY HUNT MACHINE CO.
113 Main Street, Orange, Mass.

*Reg. U. S. Pat. Off.

▼ BRIEFITS—Identified by IEN-11230 if you write the maker ▼

DIRT

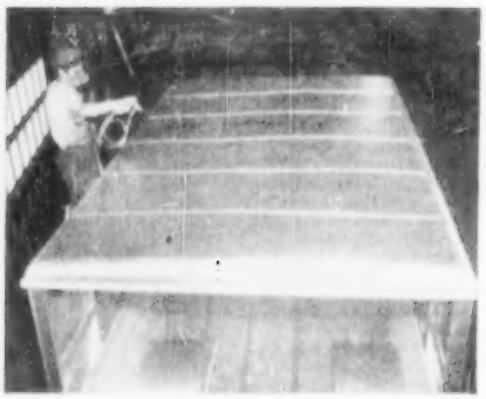
We *guarantee* CUNO MICRO-KLEAN Fluid Filter to remove . . . from almost any fluid . . . all solids larger than specified, plus a large proportion down to 1 micron size.

Ask for MICRO-KLEAN Bulletin. Cuno Engineering Corp., 6924 South Vine St., Meraden, Conn.

CUNO *Fluid Conditioning*

Removes More Sizes of Solids from More Types of Fluids

▼ BRIEFITS—Identified by IEN-11231 if you write the maker ▼



Protected Outside . . . COOLER INSIDE!*

Free Book Full of Ideas

THIS NEW FREE BOOK tells how and why Aluminum paint gives maximum protection to surfaces like that dock beam—exposed to fumes, weather and heat. How the right aluminum paint reflects heat, keeps interiors cooler, lengthens the life of wood, metal and canvas.

If you're faced having aluminum paint without the aluminum the book contains. If you've never used the aluminum paint, it describes—in a living, real paint knowledge—as it is. New pigments and vehicles development have greatly improved aluminum paint performance.

ALCOA does not make paint, but we have prepared this book to help you select the right aluminum paints, made by leading paint manufacturers from Alcoa pigments. Included are application instructions to insure maximum service, coverage tables, brush-on coverage tests of wood, stucco, aluminum paints for roofs, asphalt, wood, masonry, and for heated surfaces. A copy is yours for the asking. Be sure to mail the coupon today and send it to your friends.

MAIL THIS COUPON TODAY

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Paint Service Bureau, 1500 Gulf Bldg., Pittsburgh 19, Pennsylvania
Please send me your copy of "Painting with Aluminum."
Name (please print)
Address
City State
We plan to paint the following:

Look for this shield on aluminum paints made by many paint manufacturers using ALCOA PIGMENTS.

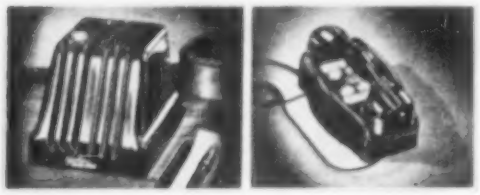
*The RIGHT aluminum paint for this job is ALUMINUM METAL & MASONRY PAINT.

ALCOA

▼ BRIEFITS—Identified by IEN-11233 if you write the maker ▼

COMMUNICATING . . Telephone with talk-listen station and handset

Source: AUTOMATIC ELECTRIC CO.
1031-35 W. Van Buren St., Chicago 7, Ill.



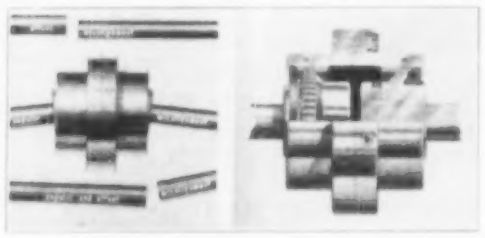
Type 4 is new addition to the company's Ideaphone line to provide a talk-listen station with a call button and a handset to assemble at a remote location on a wall or desk. The station is housed in a plastic cabinet with mahogany grain finish. It includes a sensitive microphone to pick up the user's voice and a small speaker for the voice coming from the remote handset. The pushbutton is depressed at the talk-listen station only to signal at the handset. Privacy is afforded for reception at the handset. Operation is on 6 volt dc from a battery or a power unit the company can supply for 110-volt ac service.

The complete line includes Type 1 for 2 to 8 Model 1 Ideaphone handsets each with one call button. Connection is made so all stations are signaled when any button is depressed. Codes are assigned for individual answering. Type 2 is for 2 to 6 Model 6 Ideaphones, each with six buttons for selective ringing. Type 3 employs one Model 6 and 2 to 6 Model 1 units arranged so the Model 1 handsets signal the central master only. All four are described in a new 8-page Circular 1052-A.

▼ BRIEFITS—Identified by IEN-11234 if you write the maker ▼

DRIVE . . Flexible shaft coupling, eight sizes, 12 to 350 hp. at 100 rpm.

Source: AJAX FLEXIBLE COUPLING CO.
1 English St., Westfield, N. Y.



Dihedral trade names new coupling with special tooth form for maximum contact between hubs and shaft gears in any position of angular and offset misalignment to 2 degrees. The shaft gears are free to float axially with their shafts. The housing is closed at the ends to oil seals.

Maximum bore in the eight sizes is 1⅝ to 5 inches. Greatest housing diameter is 5⅝ to 15½ inches. Overall length is 4½ to 12⅝ inches. Generated details is 8-page Bulletin 50.

▼ BRIEFITS—Identified by IEN-11235 if you write the maker ▼

PIPE FITTING . . Rotary joint connects stationary and rotating lines

Source: ROTHERM ENGINEERING CO.
4909-13 W. Irving Park Road, Chicago 4, Ill.

New design in compact Type [illegible] Kel-F in the packings of applications at non-corrosive [illegible] the working parts [illegible] specifically described [illegible] 1/2 and 1/4" pipe sizes [illegible] Pressure [illegible] Allowable speed [illegible]

The sleeve [illegible] are up by the swivel [illegible] special [illegible]

▼ BRIEFITS—Identified by IEN-11236 if you write the maker ▼

IEN ON MICROFILM

You can get a [illegible] of the pages of Industrial Equipment News for 1960 on a [illegible] Standard 35 mm. microfilm [illegible] This service [illegible] 333 N. First St., [illegible] Inc. is available [illegible]

▼ BRIEFITS—Identified by IEN-11237 if you write the maker ▼

CUT CONVEYING COSTS WITH COBURN CONVEYING EQUIPMENT

You can lower costs, speed production and reduce accident hazards with Coburn—the original enclosed overhead monorail. Sectional design permits easy installation, rearrangement or extension, as required. Coburn Enclosed Track does not obstruct floor space, requires very little headroom, simplifies spotting of work directly over machines. Can be used with hand chain or electric hoist. Carriers loads up to 3000 lbs. manually or power operated.

Write today for catalog on Enclosed Track, Bracket-type Jib Cranes, Travelling Crane and Monorail installations. Engineering help available without obligation.

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▼ BRIEFITS—Identified by IEN-11238 if you write the maker ▼

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To anyone concerned with longer life of wearing parts:

LET THIS BOOK SAVE YOU MONEY!

This brand new catalog is fact-packed with complete information on how you can save *money* and *time* and *replacement labor* . . . through the AMSCO System of Hardfacing. Here's a system based on practical, field-tested methods of applying AMSCO Welding Rods to surfaces subject to wear by impact, abrasion, heat and corrosion. This new catalog *describes* the complete AMSCO line of rods and electrodes . . . *lists* physical characteristics of each rod, with typical applications where spectacular savings can be made.

It's valuable information backed by AMSCO's half-century of experience in solving wear problems.

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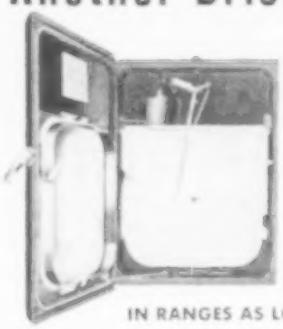
Other Plants: New Castle, Del., Denver, Oakland, Cal., Los Angeles, St. Louis. In Canada: Atlantic Steel Division, Joliette, Que.

▼ BREEFITS—Identify by IEN-11240 if you write the maker ▼

Another Bristol First!



Accurate Mechanical Recording and Controlling of Absolute Pressure

IN RANGES AS LOW AS 0 TO 6 MM.!

Now you can get a direct reading of pressure above zero absolute, inherently corrected for barometric variations, with far greater accuracy than ever before.

Bristol's new Series 800 Low-Range Absolute Pressure Recording Gauge uses a single calibrated bellows, evacuated to practically a perfect vacuum, enclosed in a pressure-tight housing. No compensation needed for barometric pressure!

Available for recording, pneumatic or electric controlling, and pneumatic or electric remote transmission. Write for Bulletin G620.

THE BRISTOL COMPANY, 107 Bristol Road, Waterbury 20, Conn. (The Bristol Company of Canada, Ltd., Toronto, Ont.)

BRISTOL

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

▼ BREEFITS—Identify by IEN-11241 if you write the maker ▼

For **DEFENSE PROGRESS**

...INCREASE your Personnel's

VISUAL EFFICIENCY

Accidents lessen production and increase spoilage—and poor vision is one of the most important contributing causes of accidents.

Now is the time to install a Keystone Occupational Visual Service. A sampling test, run on a group of your own employees, will show that a Visual Testing program will give you the results that thousands of plants are reporting:

LOWER production costs and training costs; lower labor turnover; less spoilage; reduced accident and insurance rates. **INCREASED efficiency,** larger profits; increased employee satisfaction.

Write for circular: **KEYSTONE VIEW COMPANY,** Meadville, Penna. Established 1892. Originators of Binocular Vision Testing in Industry.

KEYSTONE

Occupational Visual Service

▼ BREEFITS—Identify by IEN-11242 if you write the maker ▼

Now there's a new and more efficient way for institutions, park departments, business and industrial concerns to get the most for their snow removal dollar. Maxim Snow Throwers are self-propelled, easy to operate, solve the problem of hiring for built-up banks. Thoroughly tested proven by hundreds of users from Coast to Coast.

THE MAXIM SILENCER COMPANY
71 Pomeroy Ave., Hartford 1, Connecticut

SEND COUPON FOR DETAILS

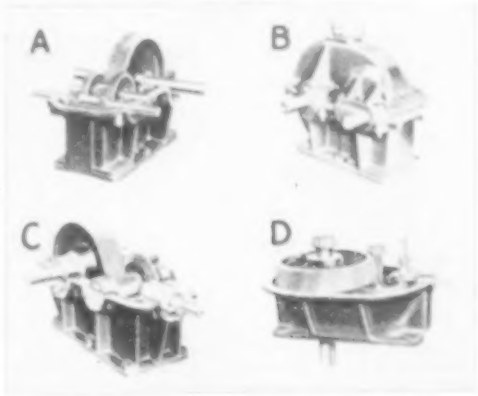
Name

Address

▼ BREEFITS—Identify by IEN-11243 if you write the maker ▼

DRIVE . . Speed reducers 15 to 2,000 hp., ratio 1.5 to 515 to 1

Source: FALK CORP.
2004 W. Canal St., Milwaukee 8, Wis.



Herringbone or spiral-bevel gearing, sleeve or roller bearings, positive lubrication, operating efficiency ranging from 96 to 98½ per cent feature four new designs in the company's line of speed reducers. All are for input speed of 1,725 rpm or higher to specification.

Parallel shaft design with sleeve bearings is shown at A in the illustration. It is made in a range from 15 to 2,000 hp. with reduction ratio at 2.22 to 300 to 1. It is illustrated and described in detail in 20-page Engineering Bulletin 1110.

Parallel shaft design with roller bearings is shown at B. It is made in a range from 15 to 1,000 hp. with reduction ratio at 2.22 to 300 to 1. Engineering Bulletin 1115, 24 pages, presents illustrated detail data.

Right-angle horizontal design with roller bearings is shown at C in which the assembly is available in 15 to 1,200 hp. rating with reduction ratio at 1.5 to 515 to 1. Engineering Bulletin 2100, 24 pages, presents illustrated detail data.

Right-angle vertical design with roller bearings, as at D in the illustration, is made in 15 to 1,000 hp. ratings and 5.7 to 450 to 1 reduction ratio. It is illustrated and described in detail in 24-page Engineering Bulletin 2110.

▼ BREEFITS—Identify by IEN-11244 if you write the maker ▼

CONTROL . . Electronic equipment regulates current to electric furnace

Source: W. S. MACDONALD CO.
31-35 University Road, Cambridge 38, Mass.

Type 218 is a new control for approaches in the power zone to an electric furnace. It has been designed for use in a 110 volt set, circuit to handle a maximum of 100 watts. It is assembled in a rectangular housing that measures 8 by 8 by 22 inches.

Full power is incorporated in this furnace starting cold until the furnace temperature comes up to the point set by turning a dial on the housing panel. The electronic circuit then takes over to regulate the input for operation within 1 deg. C. the temperature to 2,000 deg. C.

▼ BREEFITS—Identify by IEN-11245 if you write the maker ▼

CONVEYING . . Gravity roller design, straight sections and reversible curves

Source: STEEL-PARTS MFG. CO.
4632 W. Harrison St., Chicago 44, Ill.

Cadmium plated rollers made of Brazilian steel are fitted with ball bearings in 1-7/8 in. diameter. Strength stands up to a 2¾ in. Standard Frame in this new roller conveyor. The equipment is made in 5 and 10-ft. straight sections, 45 and 90-deg. curves with 22 in. inside radius. These outside frame sections range 10, 14 and 18 in. or 12, 16 and 20 in. frames.

The sections connect and to and by means of reversible couplings known as Mercator units. These couplings and the design of the curve perform precisely controlling the curves and the change in converging frame to frame having to reverse and if the straight portion. Load rating is 100 lb. for each 10-ft. section. Steel stand supports are available in three height ranges measuring 12 to 27 in. overall.

▼ BREEFITS—Identify by IEN-11246 if you write the maker ▼

INCREASES TAP LIFE

by Guided Accuracy

$20.50 POSTPAID

H. D. HERDER TOOL SPECIALTIES
3758 S. MICHIGAN AVE.
KALAMAZOO, MICH.

▼ BREEFITS—Identify by IEN-11247 if you write the maker ▼

A better way to ROLL YOUR PRODUCT to Market!

Castors wheels molded from BAKELITE Phenolic Plastic now give Maytag and other famous washing machines new selling features . . .

They have excellent impact and tensile strength. Because they retain their fine appearance despite long service, they contribute to the reputation and good will of appliances. Noncontacting of floors is another feature. The castors are produced in 2 inch and 2½ inch diameters, with 7/16 diameter pintle, with and without brakes.

Development engineers and designers may find in these castors a ready solution to current production problems. Or, they may well find reason here to re-examine their own products, with a view to improving quality, simplifying production, or cutting costs with BAKELITE Phenolics. Available in a number of forms, BAKELITE Phenolics provide smooth, lustrous finishes, high mechanical strength, light weight, and resistance to chemicals. Their heat and moisture resistance, together with their excellent electrical properties, offer extra advantages.

If you have production or design problems for your products, large or small, let Bakelite engineers help solve them. Write Dept. BC-14.

Castors supplied by The Bright Crane Mfg. Co., 2801 W. Belmont Ave., Chicago 41, Ill.
Wheels molded by Boston Molded Plastics Corp., 1158 Soldiers Field Road, Boston 35, Mass.

Bakelite *Phenolic* PLASTICS

BAKELITE DIVISION

BAKELITE DIVISION
Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.

▼ BREEFITS—Identify by IEN-11249 if you write the maker ▼

Gear Teeth FORGED! by AMGEARS

Diagonal FORGED TOOTH gears eliminate forging or machining, and give gears on the heavy duty, shock load jobs three times. Cost more 30 percent but this is comparatively cut gears.

If you use gears for heavy duty automotive farm machinery, mining, construction and road machinery or similar jobs, consider and read this issue or similar jobs speed applications, it will pay to investigate FORGED TOOTH gears. Send blueprints or samples, or gears you are now using for comparison application, performance and cost analysis.

E.M.C. — Accurate, Now

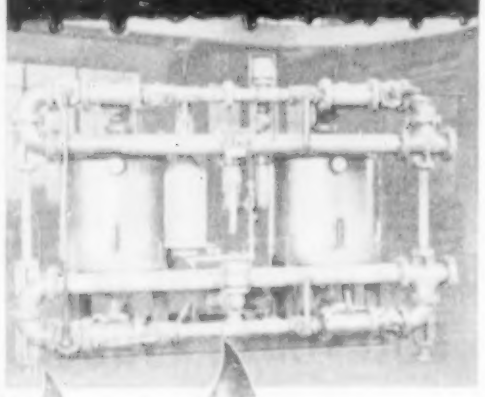
ALSO: production and precision cut and ground spur, sprockets, helicals, worms and worm gears; straight and spiral bevel gears and racks

AMGEARS, INC.
CHICAGO 48, ILLINOIS

A SUBSIDIARY OF BORG-WARNER CORPORATION
CONTRACT MANUFACTURERS
Detroit • Cleveland • Chicago

▼ BREEFITS—Identify by IEN-11250 if you write the maker ▼

STOP MOISTURE DAMAGE



Kemp Dynamic Dryers solve moisture control problems—combine dependable operation with low operating cost!

YES, we just said a mouthful. Kemp Dynamic Dryers control moisture in back bottom spaces. For example, a Kemp unit fitting gas may cost as little as [illegible] cost per unit. And that is of a total includes all fixed and utility costs, plus the cost of the equipment amortized over a five-year period. But low operating cost is not part of the Kemp story.

SIMPLE OPERATION

Kemp Dynamic Dryers are flexible — only minimum attention or automatic operation. Desiccant is especially selected and compounded for the particular plant. Units are available for drying air, gases or liquids — for controlling humidity in large or small areas. Choose gas, electric or steam regeneration with or without cooling units.

GUARANTEED PERFORMANCE

No matter what your moisture control problem may be — specify Kemp first. Chances are there is a standard design that will be ideal for your plant and at the same time save you money. Performance to your specifications is guaranteed! For full information mail coupon for special bulletin.

KEMP OF BALTIMORE — DYNAMIC DRYERS

THE J. M. KEMP MFG. CO. Dept. A-11
[illegible] Baltimore 3, Md.

Gentlemen: Please send me information on Kemp Dryers.

Bulletin D-17 We want the facts on drying — air — gases — liquids

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Company
Address
City Zone State

ABSORBERS
BURNERS
FIRE CHECKS
ATMOSPHERE & INERT GAS GENERATORS
ADSORPTIVE DRYERS
METAL MELTING UNITS
SINTERING EQUIPMENT
SPECIAL EQUIPMENT

▼ BREEFITS—Identify by IEN-11252 if you write the maker ▼

LUBRICATING . . Pneumatic equipment sprays compound on press tools, work

Source: HAMILTON STAMPING CO.
1488-92 Edison Ave., Hamilton, Ohio

Spray guns to deliver drawing compound to metal sheets being fed to a forming press and injection nozzles to inject compound on critical bearing areas are assembled with a 10-gal. hand-agitated pressure tank on a wheel-equipped base. The spray guns are secured on adjustable arms on an upright. The injection nozzle assembly in the tools to be served and connected to the tank through hose lines.

Model 1010-A lists at $565 with a 10-gal. tank, two sheet spray guns, a control valve and an actuating cam to mount on the press, a carriage to hold three of the sheet-spray guns and the required hose and fittings. Injection nozzles and additional guns can be specified in addition to as well as a 15-gal. pressure tank to hold the spray material.

▼ BREEFITS—Identify by IEN-11253 if you write the maker ▼

COMMUNICATING . . Two-way radio with batteries, hand set and antenna

Source: DOOLITTLE RADIO INC.
7419-23 S. Loomis Blvd., Chicago 36, Ill.

Type PJZ is a new self-contained two-way portable radio [illegible] weighing 14 lb. with output rating of one watt. The unit is powered by wet or dry-cell batteries with 8 hr. operating capacity. Charge is [illegible] in connection to a car battery [illegible] Thirteen [illegible] are [illegible]. Hand-set and back-pack [illegible] are available. Overall dimensions are 8¼ by 3½ by 11 inches. Two units operate on bands between 25 to 50 mc. and 152 to 174 mc. The [illegible] will allow an application [illegible]

▼ BREEFITS—Identify by IEN-11254 if you write the maker ▼

TRUCKS . . Tractor seat cushion is permanently resilient in service

Source: AMERICAN PAD & TEXTILE CO.
50 Industrial Ave., Greenfield, Ohio

Elastic fibers of [illegible] are molded into [illegible] cushions [illegible] Dynamic Fiber [illegible] cushions [illegible] Dynamic Fiber [illegible] and [illegible] permanently resilient [illegible] heavy weather proof [illegible] and is adapted to all standard tractor seats. The [illegible] is [illegible] to a tractor.

▼ BREEFITS—Identify by IEN-11255 if you write the maker ▼

CASTER . . Pressed steel swivel unit with double race and retaining plate

Source: FAIRBANKS CO.
395 Lafayette St., New York 3, N. Y.

Load is carried on a ring of [illegible] balls in the [illegible] pressed-steel caster [illegible] plate and welded [illegible] side face of the top [illegible] the caster fork [illegible] a second retaining [illegible] plate here. The design [illegible] for a King pin [illegible] permanent [illegible] and [illegible] service.

The fork is formed [illegible] Wheel [illegible] are [illegible] bearings of hard [illegible] Wheel [illegible] are [illegible] to 8½ wide [illegible] Load capacity [illegible] 84 to 2½ wide [illegible]

Series 2[illegible] is a [illegible] caster [illegible] 2[illegible] series [illegible] 2[illegible] series [illegible]

▼ BREEFITS—Identify by IEN-11256 if you write the maker ▼

NOW WE'RE MAKING THE BEST.. BETTER! PERMABRASIVE

MADE FROM FAMOUS T SHOT GRIT

With Permabrasive being manufactured from famous T abrasive, you actually have the best made better. Every advantage of T shot and grit is included and improved to provide tough, efficient, longer-lasting, cost-cutting service of Permabrasive.

Give Permabrasive a tryout in your own plant. Get in touch with our nearest office for complete information.

Licensed under U. S. Pat. No. 2184026
U. S. Application No. 610662

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NATIONAL METAL ABRASIVE COMPANY, Cleveland, Ohio
WESTERN METAL ABRASIVES COMPANY, Chicago Heights, Illinois

Hickman Williams & Co. 1890-1950

For full particulars call or write

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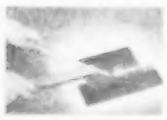
▼ BREEFITS—Identify by IEN-11257 if you write the maker ▼

Fully Re-Galvanizes Welds . . . At Lower Cost

GALVALLOY

EASY TO APPLY!

Merely heat surface and brush it on. Excellent for filling blow holes and repairing corroded areas.



Bonds so strongly you can't burn it off. Galvalloy covers completely—without use of flux.

Saves you money. Galvalloy will not flow off as water even when surface is heated electric arc. A little goes a long way.

High corrosion resistance. [illegible] strands [illegible] Galvalloy bonds perfectly to [illegible] aluminum magnesium or [illegible] Not affected by [illegible] Used [illegible] Write for literature [illegible]

JOBBERS:
Better profits in Galvalloy. Write for details.

METALLOY PRODUCTS COMPANY
1351 EAST 17th STREET • LOS ANGELES 21, CALIFORNIA

▼ BREEFITS—Identify by IEN-11258 if you write the maker ▼

AIR-MITE AIR CYLINDERS

SINGLE ACTING

DOUBLE ACTING

CLEVIS

Worth Their Weight in GOLDen Man-Hours

S[illegible]

VERTICAL

AIR-MITE 2633-M West Lake Chicago 12, Illinois

VERTICAL FACE

PARALLEL

▼ BRIEFITS—Identify by IEN-11259 if you write the maker ▼

FASTER DRAFTING

Actual tests prove that a Bruning machine can increase drafting speed by 400%. T square, triangle-edge, triangles, protractor, and scales are combined in one precision instrument. It eliminates time wasted in picking up and laying down tools, and makes accurate lines very easy and automatic!

"Equipoise" models have the best gravity compensator ever devised for inclined board use. Touch Control, balancing, is an other exclusive Bruning feature.

FREE BOOKLET — Write today for 20 page booklet, "Bruning Drafting Machines," Bruning Drafting Machines, Inc., Dept. B-1111, 170 Varick Street, New York 13, New York.

BRUNING DRAFTERS

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PORTER-CABLE ABRASIVE BELT MACHINING

PRODUCTION More Than Doubled!

The Problem — To remove tool marks — present a fine finish for anodizing — produce two rails for a forged aluminum gun mount (tensile strength 80,000 lbs.)

Previous Method — Hand filing removed tool marks — hand polish attained required fine finish — hand filing produced two rails.

Solution — Using a Porter-Cable WG-4 Abrasive Belt Grinder (illus. above), all tool marks were removed — using calibrated angle table, two rails were ground — Polishing accomplished without distortion.

Results — From 30 to 45 seconds required to finish each piece — *Production More Than Doubled* — labor cost reduced. Finish obtained with any one operation is suitable for anodizing. No set-up time required to grind two rails.

The Porter-Cable machine that made this speed and economy natural. Model WG-4, is outstanding for production runs on small parts, for finishing or for sample lettuces. Gives fast finish to pins, dies, or other machines. Handy for grinding outside tipped tools, too.

CONTOUR GRINDER	AUTOMATIC FEED	PLATEN OR FREE BELT
Model [illegible] For [illegible] grinding or finishing. Machine of [illegible] contour and point [illegible] for [illegible] work.	Model [illegible] with automatic feed table. A [illegible] machine for [illegible] surfaces. Free and [illegible] [illegible] work.	Model [illegible] Vertical [illegible] for [illegible] surfaces. Free and [illegible] [illegible] work.

For the 3 types, write "Abrasive-Belt Finishing" and [illegible] Tables.

Send me a copy of folder, "Abrasive-Belt Finishing"

Porter-Cable Machine Co., 1429 N. Salina St., Syracuse 8, N. Y.

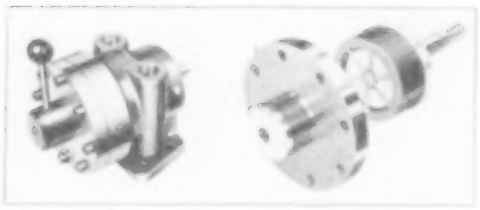
Name
Firm Name
Address
City Zone State

PORTER-CABLE MACHINE CO.
1429 N. Salina St., Syracuse 8, N. Y.

▼ BRIEFITS—Identify by IEN-11262 if you write the maker ▼

PUMP . . Vane type hydraulic, variable from 0 to 10 gpm., to 750 lb.

Source: HYDROPOWER INC.
1443-47 No. 35th St., Milwaukee 16, Wis.



Model F-100 is a new vane-type Controlled Flow hydraulic pump in which eccentricity of a pressure ring that floats in the housing can be altered for delivery maximum at 10 gpm. in one direction, through zero or center neutral to 10 gpm. in the opposite direction. The adjustment is made at a lever or knurled knob as shown in the illustration, or by other lever or remote means for manual or automatic control. Connections are threaded for 1/2 in. pipe. There are four in number for a range of combinations of inlet and outlet. Operating speed is at 1,750 rpm. with 1 hp. input to develop 1,000 lb. pressure in intermittent action or 750 lb. on continuous duty.

Three mounting designs include foot, flange and stripped, the latter to assemble in the user's machined housing. The foot design measures 9 3/8 in. in overall length by 3 3/8 in. in greatest diameter by 2 1/4 in. from base to shaft center.

▼ BRIEFITS—Identify by IEN-11263 if you write the maker ▼

SERVICE AWARD . . Pocket lighter for use as an award to plant workers

Source: ZIPPO MFG. CO.
34-38 Barbour St., Bradford, Pa

New pocket lighter in leather-covered design is offered for industrial use as an award to workers who make records of various kinds. It is available at a list price of $3.30 plus 90 cents for three specified initials in gold leaf. The lighter design includes a shield to protect the flame against blowing out in a wind.

▼ BRIEFITS—Identify by IEN-11264 if you write the maker ▼

EXPANDING . . Roll type tool to assemble tubes in heat exchangers

Source: A. L. HENDERER'S SONS
682 Maryland Ave., Wilmington 55, Del.

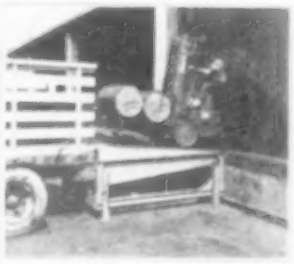
Type FT is a new tube expander for self-feeding action, permits rolling with tapered rolls, tuned rolls to eliminate sharp edges. The tool is made in a range of sizes for 1/4 to 1 5/16 in. tubes. It is adjustable for gross tube thickness and is roll together from 1/8 to 2 1/2 inches. The shortest will roll into sheets measuring 5/8 to 1 1/8 in. in thickness. The largest ranges between 1 1/4 and 2 1/4 inches.

List price ranges from $18.50 to $22.00 with square-head mandrel and front-type ball-bearing collar. A recessed collar can be specified for the tube to project in front of the sheet. The tool is packed for manual or automatic rotation.

▼ BRIEFITS—Identify by IEN-11265 if you write the maker ▼

ELEVATOR . . Hydraulic ramp levels platform with a truck floor

Source: GREEN-PENNY CO.
423-27 E. Washington Blvd., Los Angeles 15, Calif.



Load rating is 10 tons for this new self-contained power-elevating ramp. It grade in front or at the side of a shipping platform, includes motor-driven hydraulic equipment for vertical movement of the other edge through 24 inches. This range can be specified to start at any point above or below the height of the inner stationary edge.

The motor operates on 110-volt circuit as, or on 220 volts is specification. The platform measures 6 or 8 by 8 ft. with net price at $685 or $1,065. Shipping weight is 1 ton. The assembly can be supplied without the supporting legs for built in application to a platform.

All Makers of Them And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BRIEFITS—Identify by IEN-11266 if you write the maker ▼

STOP THOSE PUMP SHAFT LEAKS

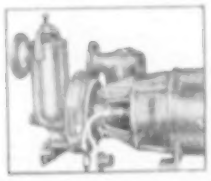
with

SYNTRON

"Replacement"

SHAFT SEALS

Self-lubricating "Packaged" units (no complication of parts to lose with)—easy to install, just slide over shaft and secure. For handling water, air, gases, petroleum products, etc. Special seals for corrosive or abrasive liquids.



Write for folder

SYNTRON CO.
418 Lexington, Homer City, Pa

▼ BRIEFITS—Identify by IEN-11267 if you write the maker ▼

Wire Forms Finished TO YOUR SPECIFICATIONS

● Now, Sommer is equipped to handle your wire forms—in a wide variety of attractive finishes.

We have installed for automatic nickel plating equipment for either large or small assemblies. Also, if you want cadmium or zinc plating, bonded and enamel, parkerized or copper-coated finishes—you can count on Sommer.

Complete forming, stamping, threading and fast welding of light metal parts are also among our services. Whatever your problem, you can save time and money if Sommer handles the complete job. Just send sample, blueprint or drawing.

SOMMER METALCRAFT CORPORATION
(Formerly ROCHE Wire and Specialty Company)
300 FULTON DRIVE
CRAWFORDSVILLE, INDIANA

▼ BRIEFITS—Identify by IEN-11268 if you write the maker ▼

THERMALLOY* can help you CUT HEAT-TREAT COSTS

Whether it's a standard hearth, tray, retort or muffle—or a specially designed unit or part—investigate THERMALLOY's heat and abrasion-resistant properties and low unit cost per operating hour. Call your nearby Electro-Alloys engineer, or write Electro-Alloys, 2954 Taylor St., Elyria, Ohio.

*Reg. U.S. Pat. Off.

AMERICAN Brake Shoe COMPANY

ELECTRO-ALLOYS DIVISION
ELYRIA, OHIO

▼ REPRINT—Identify by IEN-11269 if you write the maker ▼

IN MANY PLANTS barrels and drums weighing up to 800 lbs. are now being handled easily by one man with a Sabin Truck.

OPERATION IS SIMPLE. You tilt truck up to transport, lower it, or tip and pull back on handle to pick up load.

EXCLUSIVE THIRD WHEEL FEATURE gives better balance and added safety in moving loads.

WRITE FOR BULLETIN No. 48-A

The Sabin Machine Co.
6540 Carnegie Avenue
CLEVELAND 3, OHIO

We also make Tote Pan, Box Cotton, Keg, Wire Coil Trucks.

▼ REPRINT—Identify by IEN-11270 if you write the maker ▼

AUTOMATIC DRUM FILLER

Fills containers from 5 gallons up.

Operates from a lighting socket.

Handles any liquid.

Accuracy unaffected by air, vapor, sediment.

Fills to predetermined net weight.

Available in standard or explosion proof models.

Needs no temperature adjustment.

A real time saver with heavy liquids.

Ask for four page catalog "Automatic Drum Filling Valves"

THE VOL-U-METER COMPANY
Buffalo 16, N. Y.

▼ REPRINT—Identify by IEN-11271 if you write the maker ▼

New POCKET COMPARATOR

Pays for itself quickly inspecting small parts

PRICE $36.00

BELL & HOWELL CO.

FREE — See Your National Tool Co. Representative or Local Jobber

NATIONAL TOOL CO.
11220 Madison Avenue Cleveland 2, Ohio

▼ REPRINT—Identify by IEN-11272 if you write the maker ▼

PRESS . . Eccentric cam machine for dry powdered materials rates 5 ton

Source: F. J. STOKES MACHINE CO.
5954 Tabor Road, Philadelphia 20, Pa.

Model F-4 is new design in the company's line of presses for application on powered metals, ceramics, and for industrial tabletting. The press applies 4 ton of pressure from above and from below at the same time. Speed range is 54 to 90 strokes per minute. Overall dimensions are 20 by 33 by 56 inches.

Maximum fill and maximum piece diameter are both 1¼ inches. The lower punch compression stroke is adjustable between 0 and 5/8 inch. Upper punch die entrance also is adjustable between 0 and 5/8 inch. Maximum breakaway pressure is 4 ton. The construction includes stationary core rod, adjustable gibs, clamp-ring die holder, hardened die-table cup, die-table supports, guided lower plunger and a piece counter.

▼ REPRINT—Identify by IEN-11273 if you write the maker ▼

METER . . Vacuum tube instrument to read volts, ohms and milliamperes

Source: FEILER ENGINEERING CO.
1603 S. Federal St., Chicago 16, Ill.

Model TS-9 is a new instrument that provides five ranges between 0 and 1,000 volts in ac or dc circuits, five ranges of resistance between 2 ohms and 1,000 megohms and one range of current from 0 to 1 milliampere. The instrument is portable and is assembled in a steel housing that measures 11¼ by 6 by 9 inches. Operation is on 110-volt 60-cycle ac. Accuracy is within 2 per cent. List price is $49.

▼ REPRINT—Identify by IEN-11274 if you write the maker ▼

CLEANING . . Steam spray machine vaporizes and delivers hot solution

Source: KELITE PRODUCTS INC.
P. O. Box 2917-A Terminal Annex, Los Angeles 54, Cal.

Model S in the Kelite HD line of steam spray machines is available with air or gas firing at net prices of $929 and $936. Either unit has capacity to vaporize and deliver at high pressure a total of 200 gal. of cleaning solution in an hour. Both machines employ an assembly of ¾-in. pipe known as the water wall in the steam generating assembly. The wall contains 330 ft. of the pipe. The machine will serve two hose lines as shown in the illustration.

▼ REPRINT—Identify by IEN-11275 if you write the maker ▼

WOOD WORKING . . Jig saw machine with sander disc and blower built in

Source: BURGESS VIBROCRAFTERS INC.
178-82 N. Wabash Ave., Chicago 1, Ill.

Light duty operations can be performed by this new Model 100 machine in wood up to ¾ in. thickness and in bronze or aluminum up to ⅛ inch. Saw can be set to provide a 2½-in. stroke for the one slow speed or to a 110-cut stroke, using approximately at 3,450 r.p.m. The motor is equipped with mechanically lubricated bearings.

The table measures about 9 by 12 in. [illegible] Overall dimensions are 17 by 17 by 36 in. [illegible] Price is $[illegible]

All Models of Thomas Mid-Century Products Are Listed in THOMAS' REGISTER — See Product Ratings — See Page 16

▼ REPRINT—Identify by IEN-11276 if you write the maker ▼

Cut Clock Watching

...IN TIMING ANY PROCESS

Automatic INTERVAL TIMER
(TYPE T-48)

Let the T-48 give you dependable timing of process or laboratory operations. It frees operators for other work. And it's so easy to set up—simply plug in and go. Low in cost: $16.95 list.

Four different models: 15-hour, 2-hour, 15-minute, and 120-second—offer a wide range of applications. And the expanded scale makes it easy to set.

Contact accurate accurate. Push-button start and automatic time make repeat work a cinch. Operates on 110-120 volts, 50-60 cycle AC, 40-watt load, 1,000-watts.

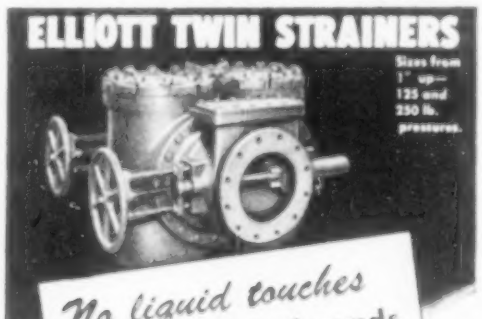
Many ways in laboratory, industry and home. See your local GE representative.

Write for Bulletin. Ask for GEA-6466. Write Section 901, Apparatus Dept., General Electric, Schenectady 5, N. Y.

GENERAL ELECTRIC

▼ REPRINT—Identify by IEN-11277 if you write the maker ▼

ELLIOTT TWIN STRAINERS



Sizes from 1" up—125 and 250 lb. pressures.

No liquid touches valve screw threads

because the valve shaft, and not the valve screw, is in contact with the liquid. Gate valve design is used for positive tightness. If chain drive or valve interlock is desired for simultaneous valve operation, sprockets, chain and handwheels may be applied without removing valve screws.

Get all the details on these improved Twin Strainers. Write for Bulletin A-13-N

ELLIOTT COMPANY
Accessories Dept., JEANNETTE, PA.
DISTRICT OFFICES IN PRINCIPAL CITIES

▼ REPRINT—Identify by IEN-11278 if you write the maker ▼

CUT HANDLING COSTS

Powell JOB-DESIGNED Containers cost no more—Save up to twice as much as Standard Equipment

For Example, this Specially Designed Caster Box — — — Saves Users **50%**

For Information write Dept. 611

POWELL FREUND STEEL CO., HUBBARD, OHIO (In Greater Youngstown)
ORIGINATORS OF COLD FORMED ALL STEEL HANDLING EQUIPMENT

▼ BRIEFITS—Identify by IEN-11279 if you write the maker ▼

In the tool kit of every construction, builder, or maintenance man . . . in every metal-working shop, the Kett Power Saw is a time and labor-saving necessity. Light-weight but rugged and powerful, the Kett tool slips with amazing ease and speed through most any kind of sheet material . . . mild steel up to 10 gauge, aluminum to 3/16", plastic and other soft material up to ½" thick.

Immediate Delivery. Write to Dept. A-11, for full details and descriptive literature.

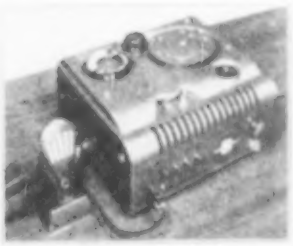
The KETT TOOL COMPANY
8 EAST THIRD STREET CINCINNATI 2, OHIO

▼ BRIEFITS—Identify by IEN-11280 if you write the maker ▼

▼ BRIEFITS—Identify by IEN-11282 if you write the maker ▼

COMMUNICATING . . Sound recorder and transcriber for dictation on wire

Source: WEBSTER-CHICAGO
5630 W. Bloomingdale Ave., Chicago 39, Ill.



Last price is $135 for this new combination recorder-transcriber and its accompanying microphone. It can be employed by an executive to dictate notes or correspondence. It can be placed on a conference table with the microphone centrally located to pick up any voices around the table. Control centers at a foot switch. Operation is on connection to a 110-volt 60-cycle a.c. line. Overall dimensions are 11 by 11½ by 5½ inches. Weight is about 20 pounds.

Sound is recorded on a wire that passes from one reel to another through a head that records, plays back and erases. The erasing operation is automatic, takes place just prior to recording as the wire passes through the head. The wire can be used repeatedly. It can be removed from the machine and shipped for transcribing or playback to another machine at a remote point. The company is prepared to install the machine on a trial basis without obligation.

▼ BRIEFITS—Identify by IEN-11283 if you write the maker ▼

SEPARATING . . Permanent magnet for ferrous particles in fluid in pipe

Source: COLUMBIA ENGINEERING SERVICE CO.
171-175 14th St., San Francisco 3, Calif.

Plate mounted permanent magnet is secured by wing nuts under a ferrous pipe fitting or coupling in a pipe line handling fluids such as paint, varnish, petroleum. The magnet attracts and holds any ferrous particles in the fluid. The plate is removed at intervals to clean the surface. Five sizes are 1½ to 4 in. standard pipe.

▼ BRIEFITS—Identify by IEN-11284 if you write the maker ▼

CONVEYING . . Neoprene-fabric belt, oil resistant, water proof, sanitary

Source: BALDWIN BELTING INC.
76 Murray St., New York 7, N. Y.

Particularly for food handling

Supertex White is a new belt made of fine, woven canvas now impregnated and embedded in neoprene. Edges are sealed, not folded, to prevent fraying and to provide a uniform cross section. The belt can be supplied endless with stepped impregnated connection or prepared for vulcanizing on the job. It can be joined with standard fastenings. The belt is odorless, tasteless, nontoxic. It resists attack by oils, acids, alkalis and can be washed with soap and water or alkalis and concentrated cleaners.

Construction is in 2 and 5 ply consisting about ⅛ and ⅜ in. in thickness. Width is to 48 inches. Tensile strength is 420 and 700 lb. per inch of width. Maximum service temperature is 250 deg. F. Stretch is 1 per cent at rated loading of 48 and 80 pounds. The belt will ride around 1 and 1½-in. pulleys although larger diameters are recommended.

Supertex Brown is a companion belt with duplicate characteristics. Only difference is slightly less thickness. Both belts are suited for transmission uses as well as for conveying.

▼ BRIEFITS—Identify by IEN-11285 if you write the maker ▼

HEATING. . .Spreader type stoker for low grade bituminous and lignite

Source: WESTINGHOUSE ELECTRIC CORP.
511 Wood St., P. O. Box 868-A, Pittsburgh 30, Pa.

Capacity of this new spreader design of the company's heat stoker equipment covers a range of steam production between 20,000 and 200,000 lb. of steam per hour. The stoker rolling spreader stoker is hydraulically driven in step with hydraulic ram operating in a chain grate that runs through the front of the boiler combustion chamber. The fuel is delivered evenly in a comfortable part because in the air with the aid of pulverizers are now also fed into the stoker. Stoker equipment, about one in the front for coal, natural distribution with a gal. beneath the setting.

Bulletin B-1551, 12 pages, contains complete information, including data on construction, operation, control, grate speed, fan characteristics, and includes a cross view of which is [illegible]

▼ BRIEFITS—Identify by IEN-11286 if you write the maker ▼

▼ BRIEFITS—Identify by IEN-11287 if you write the maker ▼

▼ BRIEFITS—Identify by IEN-11288 if you write the maker ▼

▼ REPRINT—Identify by IEN-11289 if you write the maker ▼

66 variations of 5 modern machine tools

Here is a catalog every buyer of Machine Tools should have for it shows, describes and gives specifications of today's most advanced line of moderate priced precision machine tools. Write for your SHELDON Catalog today.

SHELDON
CHICAGO
SHELDON MACHINE CO. INC., 4208 N. Knox Ave., Chicago 41, Ill.

▼ REPRINT—Identify by IEN-11290 if you write the maker ▼

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BINDING HEAVY ROLLS OF INSULATED WIRE

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PERMACEL IS

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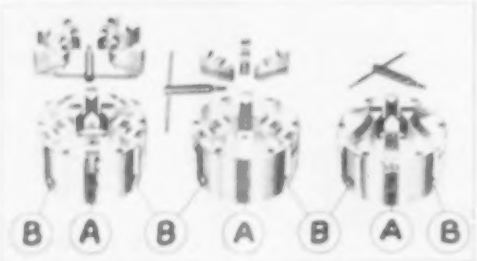
INDUSTRIAL TAPE CORPORATION • NEW BRUNSWICK, N. J.

▼ REPRINT—Identify by IEN-11292 if you write the maker ▼

CHUCK . . Universal scroll design with independent centering adjustment

Source: BUCK TOOL CO.
2013-17 Schippers Lane, Kalamazoo 62, Mich.



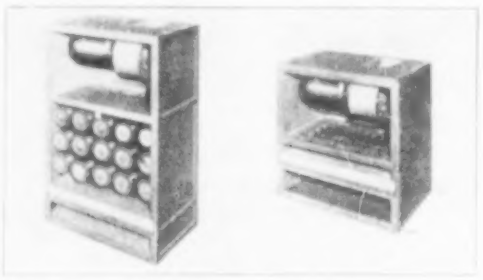
Adjust-Tru heads names new three or six jaw scroll chuck available in 4, 5, and 6 in. diameters. All three will grip work on internal and external diameters. An additional six jaw unit grips externally only. Applications are on lathes, dividing heads, grinders, screw machines. List price ranges from about $32 to $90.

Work is gripped by turning a wrench in any of several socket openings A around the chuck body in normal arrangement. Independent centering action is obtained by applying the same wrench in sockets B located in 30-deg. intervals. Turning these sockets sets the chuck body over as required on its adapter. Adjustment can be made to one-half thousandth within three minutes. Once set the position will hold, can be maintained for a run of duplicate work. Detail illustrated information with dimensions, capacities, prices are contained in 4-page bulletin, "How Adjust-Tru Chucks."

▼ REPRINT—Identify by IEN-11293 if you write the maker ▼

VENTILATING . . Blower unit for crane cab, also filters and heats

Source: DRAVO CORP.
Liberty & Fifth Aves., Pittsburgh 22, Pa.



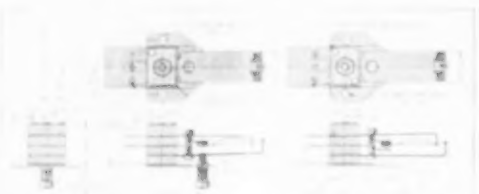
Model VDHF to the left and **Model VDH** to the right are new ventilating units for installation in crane cabs. Both recirculate the air in the cab and draw in fresh air. The former filters and passes the air through carbon canisters for fume removal. The latter omits the canisters but retains the filter panel. Both models have 1,000-watt electric heating elements.

The blower rates 100 to 600 cfm. It is driven by an enclosed ball-bearing motor. The blower portion of the assembly can be set for horizontal or vertical delivery. Dimensions are 28 by 16 by 42 or 27 inches.

▼ REPRINT—Identify by IEN-11294 if you write the maker ▼

SWITCH . . Thermostat, contacts rate 10 amp. on 220 volt ac.

Source: MICRO SWITCH DIV.
30 E. Spring St., Freeport, Ill.



New design in the Trimpot by commercial or thermal switch is available in manual and automatic reset possibilities as shown to the left and right in the illustration. Both simplest thermal element is a rigid or flexible mounting to support the spring and to provide the spring force on change in temperature. Control temperature range is 0 to 200 deg. F. Temperature differential is normally 10 and do this at a specified value within the range. Switch contacts a pair of [illegible] T.

The manual unit [illegible] change in temperature and [illegible] a button extending through the housing panel. The contacts are normally-open in a single-throw arrangement.

The automatic design [illegible] for restoring the thermal spring element to a [illegible] position when temperature reduces to normal. Temperature operating material. Operate differentials are about [illegible] range for [illegible] in. to 3 inches width by [illegible] in. in length.

▼ REPRINT—Identify by IEN-11295 if you write the maker ▼

For Savings Specify

DARNELL CORP. LTD.
LONG BEACH 4, CALIFORNIA
60 WALKER ST. NEW YORK 13, N.Y.
36 N. CLINTON, CHICAGO 6, ILL.

▼ REPRINT—Identify by IEN-11296 if you write the maker ▼

All-Metal...
All-Weather MOUNT

Complete and Balanced Protection

All metal—all weather top type shock mounts with MET-L-FLEX provide vibration isolation and shock absorption through the widest possible range of operating conditions.

These all metal unit mounts assure constant performance under all service conditions • no organic materials • stable characteristics from −90° C. to +175° C. • wide load tolerance • built in damping for reduced amplification at resonance.

For electronic or delicate equipment mounting, write Dept. 716
MET-L-FLEX
Data Sheets available

ROBINSON AVIATION INC.
TETERBORO, NEW JERSEY
Vibration Control Engineers

▼ REPRINT—Identify by IEN-11297 if you write the maker ▼

ALL these GRC tiny zinc die castings were produced in one automatic operation!

What a saving of time and money for you!

We can offer zinc die castings as small as .000004 of a lb. (250,000 to the lb.)
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797 E. 132 St., N. Y. 54, MOtt Haven 9-2476

IEN-11298

ARE YOU LOOKING FOR BETTER LOCKS AT LOWER COST?

The Eagle Lock line of cabinet locks is the answer for exceptional security at lowest cost offering these exclusive features:

- Double grooved key
- 6 to 9 tumblers positively positioned by key
- Tumbler contours cut in sides of key
- Exceptionally large number of key changes
- Carefully guarded key codes
- Ordinary duplication of keys not possible

For your security problems, Eagle can give you a practical answer to fit a reduced cost program. We invite your security problems.

The EAGLE LOCK Company
Terryville, Connecticut

America's First Lockmakers...Since 1833

IEN-11299

Cleveland Type F Air Vibrators Are Now Being Used In Various Manufacturing Processes, To Move Or Settle In Bulk:

Soap	Meat
Sawdust	Wood Chips
Dye	Candy
Fertilizer	Sand
Vegetables	Coal
Concrete	Dry Colors
Chipped Ice	Steel Slags

and countless other products.

Catalog No. 105 will give you further details.

THE CLEVELAND VIBRATOR COMPANY
2737 Clinton Ave. · Cleveland 13, Ohio

IEN-11300

PROTECT

your expensive dies and machine parts

USE
ACME
RED OR BLUE LABEL
PRECISION
DOWEL PINS

Acme Dowel Pins break before bending or mushrooming—thus saving expensive equipment from run through misalignment. Order standard sizes from stock. Attractive prices on special sizes and large quantities.

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Acme Industrial Company
Makers of Standardized Jig & Fixture Bushings
215 N. Leffin Street · Chicago 7, Illinois
THE SERVICE SHOP TO INDUSTRY FOR MORE THAN 25 YEARS

IEN-11301

GAGE . . Electronic equipment reads static and dynamic pressures

Source: ELECTRO PRODUCTS LABORATORIES INC.
4501 N. Ravenswood Ave., Chicago 40, Ill.

Two new elements, the Synchro-Marker and the Angular Sync, have been added to the company's electronic Pressure gauge previously described (EN 10/49). The original unit can install a pickup in formed coil a pressure-time curve in the combustion chamber of an internal-combustion engine, the cylinders of an air compressor, and the pressure pulse in pipe lines (10/49 issue gives details).

The pickup contains a diaphragm-type combustion or blower cylinder where a pressure response is required. The electromagnetic voltage pulses through a contact system to an oscillograph in which the strong voltage has been adjusted to the signal of the equipment being measured and pressure-time curves are traced on the hard sheets on the screen. The pulsing coil shape of this head is a true pressure-time curve.

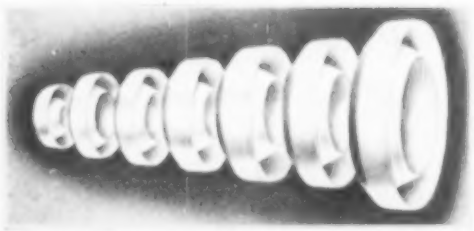
The Synchro-Marker contains a 1000-cycle oscillator or generator in primary signal, pulsating voltage to shape sheets, inverter and modulating signals, and cross these signals with the Pressure-pick signal coil power supply. It makes possible a quick examination of any portion of the cycle. It generates a Pressure Marker signal on the pressure diagram. It generates an identification pulse to mark the sync top and bottom dead center or any other part of a complete cycle. The pulse can be shifted to measure angular distances on the diagram.

The Angular Sync is a magnetic-electrical device to compare to a rotating shaft on the equipment being studied. It generates the pulse and modulation signal and synchronizes the oscillograph pattern with rotation at the equipment speed.

IEN-11302

SEALING . . Plastic V-rings of molded Teflon, 1/4 to 2 1/2 in. id.

Source: CRANE PACKING CO.
1815 Cuyler Ave., Chicago 13, Ill.

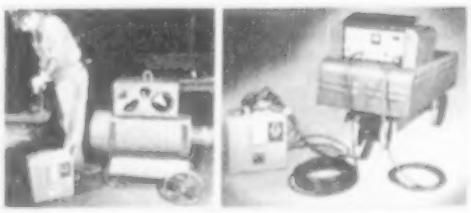


Chemlon V-rings [illegible] Teflon. Chemlon V-rings are packings for reciprocating service in temperatures to 150 deg. F. The compound has an 8 to 9 range of pounds to make seal from 1/4 to 2 1/2 in. in such diameter and to various sections. It is proposed to make gliding seals for [illegible] Chemlon V-rings [illegible].

IEN-11303

FASTENING . . Electric power units for stud welding to sheets and plates

Source: NELSON STUD WELDING DIV.
East 28th St. & Toledo Ave., Lorain, Ohio



New equipment [illegible] for the automatic welding system required for automatic and semi-automatic welding of stud studs to sheets. The complete system includes a power-stud welding gun, operating from operation to 250-140 volt operation, a single phase 60 c. 115 volt welding transformer, a welding cable, etc. [illegible]

It also includes an automatic or semi-automatic welding system for [illegible] a 230 volt or higher source. Electrical and air gun [illegible] can be supplied as a kit or in [illegible] control for [illegible] stud welding [illegible] to 5/8 in. The company suggests the [illegible] and a gun for [illegible] the power source.

All Makers of Equipment and All Items Products Are Listed in THOMAS' REGISTER · Descriptions · Ratings · See Page 19

IEN-11304

INCREASE PRODUCTION WITH A *Royal* 515 STOOL

60 DAY *Free* TRIAL
examine it... test it... use it without obligation

- Sturdy Masonite seat imbedded in the seat pan.
- All welded frame.
- Leg extension for easy height adjustment.
- Oven-baked gray enamel finish.
- Fully guaranteed.

WRITE TODAY FOR DETAILS!

ROYAL METAL MFG. CO.
175 N. MICHIGAN AVENUE
CHICAGO 1, ILLINOIS

IEN-11305

Chicago MOUNTED WHEELS

First and Finest –
and Still the Leader!

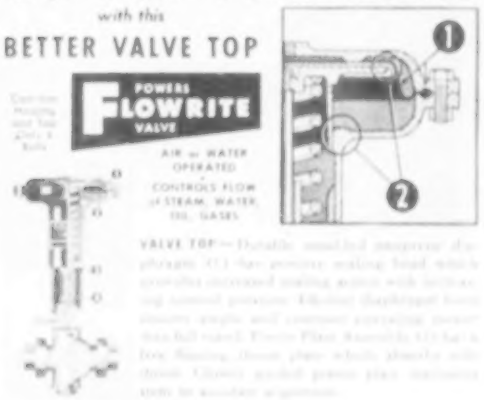
Chicago Mounted Wheels — which were the first to be mounted on steel mandrels — provide a custom-built product to fulfill virtually every kind of grinding and polishing operation. They speed up production — last longer — and cost less with a variety of styles and sizes to cover every type of operation.

Write for Free Catalog, plus details on Free Engineering Service.

CHICAGO WHEEL & MFG. CO.
Dept. N, 1101 West Monroe Street, Chicago 7, Illinois

IEN-11306

Get **TOP** Performance
with this
BETTER VALVE TOP



VALVE TOP—Durable molded neoprene diaphragm (1)—has positive sealing lead which provides increased sealing action with increasing control pressure. Efficient diaphragm lasts [illegible] and control pressure [illegible] full rated. Powers Flow Rite valve has a low flowing [illegible] which plunges with [illegible]. Closes against power plus [illegible] to another [illegible].

VARIETY of VALVE BODIES—[illegible] to 6 in. for line pressures below 250 lbs. psi. Rugged construction in wellbored [illegible].

ADJUSTING SCREW (2)—Ball-bearing non-turning type. Easily accessible. 180° rotating radius well-suited [illegible] from 0 to 17 psi. Has enclosed non-corroded and spring for and travel to 5 or 10 psi. control pressure change.

BONNET ASSEMBLY (3)—Tubular [illegible] and rise in [illegible] lubricated metallic packing insures long life and low [illegible].

THE POWERS REGULATOR COMPANY
2737 Greenview Avenue, Chicago 14, Illinois
Established 1891 ★ Offices Over 30 Cities ★ See Your Phone Book

▼ BREVITY—Identify by IEN-11307 if you write the maker ▼

are you "up-to-date" on SPRAY NOZZLE developments . . . for example

✓ Spraying Systems Presents Atomizing Nozzle with Diagonal Nozzle . . .

✓ Spraying Systems Presents Atomizing Nozzle for Automatic Operation . . .

✓ Spraying Systems Presents Atomizing Nozzle with Hinge Jacket . . .

WRITE and tell us the details of what you want to accomplish in spraying . . . our engineering facilities are at your service. Also . . . do you have General Catalog No. 22?

SPRAYING SYSTEMS CO. 3201 Randolph Street Bellwood, Illinois (Suburb of Chicago)

▼ BREVITY—Identify by IEN-11308 if you write the maker ▼

5500 lbs. IMPACT WITH THIS Bellows Air-Powered PRESS

THIS spring-loaded impact press operates on any air line pressure from 20 lbs. to 175 lbs. . . . develops a controlled impact force ranging from a few pounds up to approximately 5500 pounds at 100 lbs. air pressure.

Ram shaft has a maximum clearance of 13-7/16" (maximum ram movement 11½" with a vertical adjustment of 12"). Throat clearance 7".

The Bellows "Controlled-Air-Power" Impact Press is available with either electrical or manual foot controls, or with two hand safety controls.

ADDRESS DEPT. IEN-1110

The Bellows Co.
AKRON 9, OHIO

"Controlled-Air-Power" For Faster, Safer, Better Production

▼ BREVITY—Identify by IEN-11309 if you write the maker ▼

Compare! Wirebounds WITH YOUR PRESENT CONTAINER! SEND FOR THIS FREE BOOK

Wirebound BOXES & CRATES

WIREBOUND BOX MANUFACTURERS ASSOCIATION
Room 1181 • 332 South LaSalle Street • Chicago 4, Illinois

▼ BREVITY—Identify by IEN-11310 if you write the maker ▼

TRUCK . . Engine driven tractor will haul 36 ton trailer mounted load

Source: HENSEL GREEN & CO.
7-11 So. Clinton St., Chicago 6, Ill.

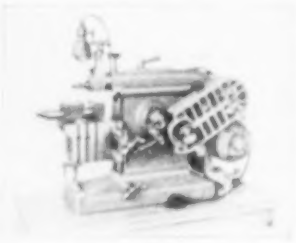
Linton Model 18 is a low truck for load pulling and pushing in which the drive is a Model C-1 International Harvester engine and a majority of the truck parts are by the same company. The truck rates 1,800 lb. at drawbar pull, operates at 3.2 to 10 mph. forward and 3.7 mph. in reverse. It can be equipped in a 72-in. tailbar. It rides on pneumatic tires using the rear wheels alone for smooth operation over rough or sandy paved runways.

The hub and the front axle are integral and made of steel plate for maximum service strength. Dimensions are 40 lb. in width, 79 in. in length. Seats are provided for two riders.

▼ BREVITY—Identify by IEN-11311 if you write the maker ▼

SHAPING . . Bench type machine has 7¾ in. stroke and four speeds

Source: DELTA POWER TOOL DIVISION
614 E. Vienna Ave., Milwaukee 1, Wis.



Ram speed is 40 to 180 strokes per minute in this new shaper. The table provides horizontal movement of 9½ in. and vertical movement of 4¼ inches. Feed ranges from .049 to .018 in. per stroke. The adjustable tool head can be rotated for work between vertical and horizontal. It provides 3¼ in. of movement in its slide. Vise capacity is to 4¼ inches. Accessory equipment includes a portable cabinet, rotary table, index centers, tools to cut keyways and an angle plate.

▼ BREVITY—Identify by IEN-11312 if you write the maker ▼

AIR CONDITIONING . . Outlet panel distributes air from ceiling duct lines

Source: PYLE-NATIONAL CO.
1348 N. Kostner Ave., Chicago 51, Ill.

MULTI-VENT PANEL WITH PERFORATED DISTRIBUTION PLATE LOWERED

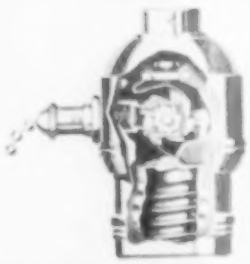
The company announces a new Multi-Vent low velocity air distribution ceiling panel 1 ft. in width. The new size supplements the current line of 2 and 3 ft. widths. Standard length is 2 to 6 feet.

The panel cannot take a new and exact dirt. Any that gets through the air filtration and forces is partially deposited on the upper side of the perforated distribution plate or metal screen pan so it cannot come forward in the floor.

▼ BREVITY—Identify by IEN-11313 if you write the maker ▼

LIGHTING . . Electric lamp socket with company's pull type switch

Source: McGILL MFG. CO.
100 N. Lafayette St., Valparaiso, Ind.

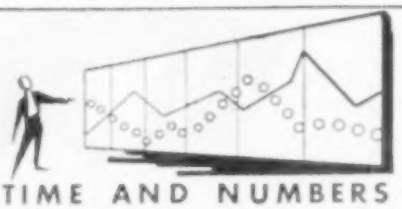


No. 1100 is a low electric lamp socket for industrial use in which the switch mechanism is the company's Leviter pull type switch design. The socket housing is made of brass with a double wall of cap and casing over the center section of the operating lever. The parts cannot separate when the lever chain is pulled.

The screw shell for the lamp base is made of bronze. Rating is 660 watts at 250 volts. The socket is supplied with a ¾ in. pipe thread cap and brushed brass finish. It carries approval by Underwriters' Laboratories Inc.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN-11314 if you write the maker ▼



TIME AND NUMBERS

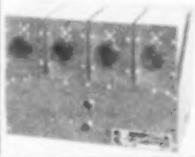
Do you need a permanent record of specific times and numbers that apply to your laboratory or production work? Streeter-Amet has the instrument which will accurately and speedily record either numbers or time or both at the same time on paper tape for easy readability.

The counter operates by any means capable of supplying a switch closure or an electrical impulse. Counts may be indexed by time or number printed alongside the count.

For high speed counting of a predetermined number of completed articles, the Streeter-Amet Predetermined Counters automatically counts and then shuts off or controls associated machinery when the predetermined number is reached. An outstanding timesaver when packing a given number of small articles in a carton or bottle and measuring lengths of wire or sheets in a bundle.

Tell us your specific outstanding problem. We know we can help you economically.

Write for illustrated circular SC 12.



FOUNDED 1888

SCALES-WEIGHT RECORDERS-HI-SPEED COUNTERS
STREETER - AMET COMPANY
4101 N. RAVENSWOOD AVE. CHICAGO 13, ILL.

▼ BREVITY—Identify by IEN-11315 if you write the maker ▼

CUT COSTS HELP YOUR WORKERS SEE FASTER EASILY ACCURATELY

LOCALITE THE VITAL SEEING ZONE

Fast, accurate workmanship takes good "seeing" tools—localized lighting. On precision tasks like machining, assembly, and inspection, the seeing tools must provide *both* ample *illumination* and *flexibility* in position so the worker can direct the right illumination exactly as needed for his particular seeing requirements.

Only with Localites can this high efficiency of illumination be obtained for the vital seeing zone of each worker's task. Thousands of industrial plants have found Localites the economical, sure way to get more and better production — at lower cost.

LOCALITES are available in a selection of 10 models with various type reflectors, arms and bases for every industrial need.

MODEL 3267-H-174

$6.12 EACH in qty. of 1. Single units $7.65 ea.

MODEL 3470-P-172

$7.15 EACH in qty. of 1. Single units $8.95

NEW SENSATIONAL Sten-X-Lite

Complete except lamp Only $10.50

BALANCED LIGHTING fostoria GENERALITES for Overall Lighting • LOCALITES for Seeing Tasks

• Write for free booklet on Balanced Lighting and complete catalog of Localites and Generalites models.

THE FOSTORIA PRESSED STEEL CORP
FOSTORIA, OHIO, U.S.A.

Localites are available through selected distributors everywhere

▼ DRAFFITT—Identify by IEN-11317 if you write the maker ▼

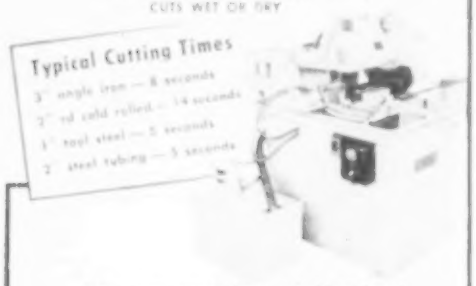
Precision die molded plastics in small lots are now available at the lowest possible die mold cost. This new process and method is primarily for pilot runs in the production of 100 to 5000 small precision plastic moldings for experimental and other purposes where the cost of conventional type die molds would be prohibitive.

Present capacity: 1½ ounce size, or, 3 x 4 x 2".
Your inquiries are invited.

DAYTON ROGERS
Manufacturing Company
MINNEAPOLIS 7, MINNESOTA

▼ DRAFFITT—Identify by IEN-11318 if you write the maker ▼

CUT ALL METALS
in Seconds
WITH **STONE "SWING-CUT"**
CUTS WET OR DRY



Metals in any size or shape up to 3" solids and 4" pipe cut with milled-like finish to tolerances of .008. Fool-proof, self-centering vise for angle cutting to 45°; all activated either hand or foot controlled. Vee-Block jaws for cutting rounds and tubing can be supplied.

You'll want to know more about the many features of the "Swing-Cut" and how it can lower your costs. Write today and we will send you complete information by return mail.

STONE MACHINERY CO., INC.
518 Fayette Street Manlius, N. Y.

▼ DRAFFITT—Identify by IEN-11319 if you write the maker ▼

HOW TO SAVE MONEY*

... ON YOUR PRODUCTION COSTS

... ON YOUR MAINTENANCE COSTS

ESTABLISHED 1909
THE OHIO GEAR COMPANY
1345 E. 179th St. • Cleveland 10, Ohio

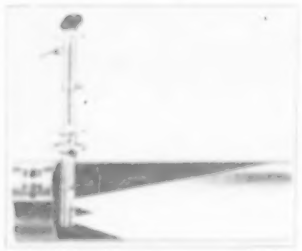
*STANDARDIZE ON OHIO STOCK GEARS AND SPEED REDUCERS

OHIO GEARS

▼ DRAFFITT—Identify by IEN-11320 if you write the maker ▼

TESTING . . Optical inspection unit for interiors of 4 in. or larger pipe

Source: LENOX INSTRUMENT CO.
2006 Chancellor St., Philadelphia 3, Pa.



Gammascope is a new optical viewing unit for inspection of the wall of a pipe. Can be inserted the length of the pipe and scan the flow of gamma rays. Apparatus is through threaded openings in pipe. The flow gamma rays may be a single ray or a number in the lower case a number using a short portion of fission tube provides angular flexibility.

The lower handpiece of the flow is the connection to mount with a 1½ in. threaded pipe nipple. The unit held without left hand holding magnet to grip the bottom of the instrument and hold it. The top handpiece fits the barrel and directs the two light sources and the viewing mirror as required for the inspection.

Visibility in an empty main line is to 50 ft. in either direction. The light sources are with perpendicular image for operation on a 24 volt battery and supplied for the purpose or from a 110 volt ac line through a 10 volt transformer.

▼ DRAFFITT—Identify by IEN-11321 if you write the maker ▼

MIXING . . Roll type machine to rotate filled drums and pails

Source: VOL-U-METER CO.
P. O. Box 54-A, Buffalo 16, N. Y.

Three sets of rolls are mounted on ball bearing pillow blocks on a structural base of this new machine. They are spaced to take two 5-gal. pails and one 30-gal. drum. Rotation is by a motor that is mounted at one side. Flanges hold the pails and drums from shifting. Rotation mixes the contents.

▼ DRAFFITT—Identify by IEN-11322 if you write the maker ▼

CASTER . . Swivel and rigid units, cold forged yoke and plate, 4 to 8 in.

Source: RAPIDS-STANDARD CO.
242 Rapistan Bldg., Grand Rapids 2, Mich.

Series 41 and 42 are new cold forged casters with load-carrying capacities from 200 to 800 lb. depending on the wheel design. These include Nitrolite, Duralan plastic, Soft and Hard Tred rubber, molded on rubber. Both units are available in rigid and ball-bearing swivel designs. The former has a top plate measuring 4 by 5 inches. The latter mounts a plate measuring 4½ by 6¾ inches. Each is equipped with Zerk pressure lubrication fittings and with Hyatt bearings.

▼ DRAFFITT—Identify by IEN-11323 if you write the maker ▼

DRIVE . . Right angle gear head, standard at 1 to 1, optional at 2 to 1

Source: AIRBORNE ACCESSORIES CORP.
23-27 Montgomery St., Hillside 5, N. J.

New size rating 1 hp. at 1800 rpm. or 750 in. lb. a static torque has been added to the Size A50 Laser right-angle drive previously described (IEN 3406-N). The new size is known as Model R-50 and 50-to-2 and 2-way assembly with 1-to-1 ratio it is designated R-50-2 and R-50-2 when the ratio is 2-to-1. The 2-way design with the output shaft extending at both ends is shown in the illustration as an example of construction.

The shafts measure ⅝ in. in diameter and are mounted in ball bearings in the sealed and permanently lubricated aluminum housing. The gears are hardened alloy steel. Both housing flanges are recessed to center driving and driven equipment. Dimension over the output shaft with double extension is 6⅝ inches. The extensions are each 1½ inches.

Bulletin 117, 4 pages, presents illustrations, description, specifications and dimension drawings.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ DRAFFITT—Identify by IEN-11324 if you write the maker ▼

▼ DRAFFITT—Identify by IEN-11325 if you write the maker ▼

WHATEVER your requirements, Roebling can supply Metallic Filter Cloth woven of the right metal or alloy, and in the right weave and mesh, for topmost efficiency and service life. The weaves illustrated above provide the extra strength needed for higher pressure or vacuum. They are adaptable for almost any type of filter . . . smooth-woven and easy to clean . . . provide free discharge of filtrate, and hold back the finest solids.

Send for full information about Roebling Metallic Filter Cloth. We shall be very glad to discuss your special problems and to furnish samples.

WOVEN WIRE FABRICS DIVISION
JOHN A. ROEBLING'S SONS COMPANY
ROEBLING, NEW JERSEY

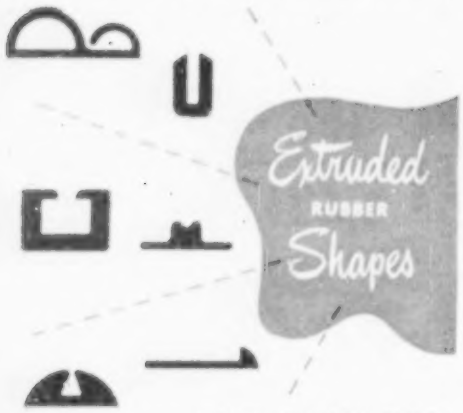
A CENTURY OF CONFIDENCE

▼ DRAFFITT—Identify by IEN-11326 if you write the maker ▼

IT'S TIME TO INVESTIGATE if you are not using the PROVEN Dy-Namic Balancing technique in your plant? Improves product performance by reducing noise, vibration and friction . . . fast . . . accurate . . . economical! FREE Dy-Namic Balancing Manual brings you latest facts! Bear Mfg. Co., Dept. I-3, Rock Island, Ill.

"BEAR"
STATIC AND DY-NAMIC BALANCING MACHINES

▼ BREEZE—Answer by IEN-11327 if you write the maker ▼



WHAT DO YOU NEED?

We have a multitude of dies available to meet your requirements. Designs shown are but a few in our large and varied assortment. Lowest possible cost per unit. Send specifications *today*.

FREE: 44 page catalog

Illustrates and describes complete LAVELLE line machine tool and industrial rubber specialties. Request your copy today.

Take It Up With

LAVELLE *Rubber Company*

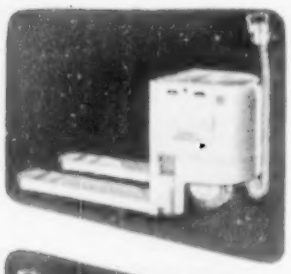
1811 WEST HUBBARD STREET, CHICAGO 22, ILLINOIS

▼ BREEZE—Answer by IEN-11328 if you write the maker ▼

Biggest Materials Handling news in years

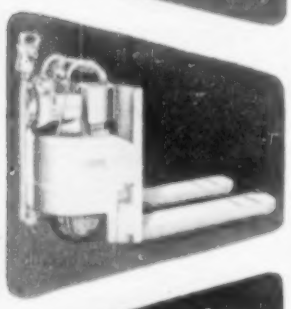
CLARK'S REVOLUTIONARY *New* POWERED HAND TRUCKS

• GAS OR ELECTRIC POWER • SHORTEST TURNING RADIUS • MORE POWER! • MOTORS IN THE DRIVE WHEEL



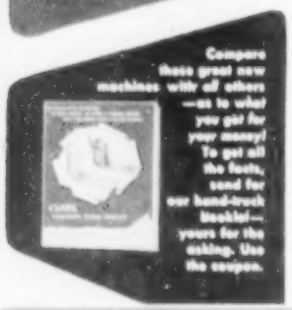
Electro-Lift

New type compound-motor delivers more power than any other electric truck. Ample reserve power; high gradability. Automatic acceleration. Soft dynamic-braking. Requires minimum operator effort because speed variations are negligible. 19 plate batteries.



Hydro-Lift

Gas-engine drives variable-displacement hydraulic pump which drives constant-displacement hydraulic motor with unequalled smoothness and controllability. 24 hour-ramp service. Automatic torque multiplication—big reserve power. Effortless finger-tip positioning of directional controls.



One Basic Design

Same rugged frame for both power units. Shared wheelbase. Larger (LAC) drive pin carries greater share of load. Interchangeable wheels and tires. Free wheeling on rollers and floats. Interior arrangement. Complete drive and lift systems. Elevator mast carriage housing of CLARK tractor.

CLARK ELECTRIC AND GAS POWERED FORK TRUCKS AND POWERED HAND TRUCKS • INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION — CLARK EQUIPMENT COMPANY — MAIL THIS TO MR.

Please send New Powered Hand Truck Book

Name

City Zone

Address

State

AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

▼ BREEZE—Answer by IEN-11330 if you write the maker ▼

FASTENING . . Steel anchor studs driven by cartridge in portable tool

Source: RAMSET FASTENERS INC.
12120 Berea Road, Cleveland 11, Ohio

Model 122 is new design of the Ramset powder actuated stud-driving tool, patented. Associated HPS-2010-B. The tool is operated by turning clockwise. A slotted stud of the 16 varieties of stud and powder charges are inserted and the barrel is turned back to closed position. Safety elements are then released, the tool is placed against the work face and the handle is turned and pressed forward.

The discharge will drive the stud through steel, into concrete, masonry or other hard material to fasten an anchor. The action including loading and firing takes a little less than a minute and replaces drilling and wood setting by unskilled labor.

The new tool weighs 6½ lb, measures 12 in. in length. Takes fasteners to ¼, ⅜, in. diameter by 2½ in. in length. A complete heavy duty model. Takes fasteners to ⅝ in. by 6 inches.

Bulletin, "Ready Reno" No. 26, 8 pages, illustrates the tool, describes its action, shows the type of work it is for.

▼ BREEZE—Answer by IEN-11331 if you write the maker ▼

SEALING . . Braided asbestos, Teflon impregnated, seals corrosives

Source: GREENE TWEED & CO.
342 Elm Ave., North Wales, Pa.

Braided after impregnating

Palmetto 1338 is a new Teflon-impregnated, moisture-resistant packing available in 5/16 and greater square sections. It is packaged on 1 lb. spools, in 5/16 and 13/16 hours and on 25-30 and 100 lb. reels. It can be cut and formed to required packing-box sizes. The self-lubricating material is resistant to attack by acids, alkalis and corrosive fluids. Temperature range is minus 120 to plus 500 deg. F.

▼ BREEZE—Answer by IEN-11332 if you write the maker ▼

MARKING . . Steel stamp holder with aluminum housing, for sheet, strip

Source: M. E. CUNNINGHAM CO.
99 E. Carson St., Pittsburgh 19, Pa.

Hinged head, base and handle make up this new holder for steel stamps to apply the stamps along the edge of metal sheet or strip. The head is lifted by pressing against spring action on a small lever. The holder is then positioned, the lever released and the stamps are struck individually with a hammer. The base is fitted with a steel insert to back up the work. Stamps sizes and number as well as the characters are to specification.

▼ BREEZE—Answer by IEN-11333 if you write the maker ▼

HEAT TREATING . . Gas generator produces protective furnace atmosphere

Source: SURFACE COMBUSTION CORP.
2271-77 Dorr St., Toledo 1, Ohio

Type MRX of gas generator uses pumps to mix volumes of air and gas, preferably by forced air pressure. Exchange of air and gas and fuel flow will be adjusted and controlled by a gas flow pressure. The mixture ignites and generated in the tube is driven out at the top, it goes down through a water-jacketed cooler for delivery to furnace or more furnaces, as in after quenching for age-hardening and annealing purposes.

Three sizes in the line [illegible] to 800 cu. ft. of atmosphere gas. Outlet pressure is 5 [illegible] connecting operating temperature is 1,800 to 2,000 deg. F. Overall dimensions are 46 and 48 in. in length, 30 and 32 in. in width, 20 and 26 in. in height.

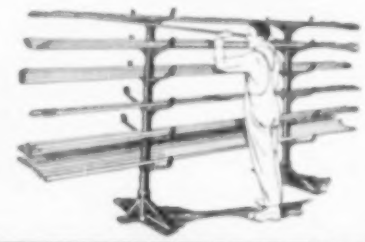
All Makes of These and All Other Products Are Listed in THOMAS' REGISTER — Pertinent Ratings — See Page 50

▼ BREEZE—Answer by IEN-11334 if you write the maker ▼

SPEEDS UP STOCK-ROOM SERVICE

The BROWN TIME-SAVING RACK saves the time previously lost and dealing each bar of stock its entire length from the old-style closed-side Rack, the Brown Rack requiring but a few inches of side-movement. Each length, width and thickness of stock is displayed in goldfish visibility for instant selection. Workmen waiting for stock are served without waste of time, and returned to their production machines to turn out a maximum of output. Any time you require additional storage space, all you need do is to add more units. If you want to relocate it at any time, you can do so for it is unattached to the building. It is a simple, durable article made of metal in five styles. It can't burn, warp, sag or twist, depreciation is practically nil. SEND FOR BULLETIN No. 26-E DESCRIBING

BROWN'S *QUICK-SERVE* RACKS



BROWN ENGINEERING CO.
122 NORTH THIRD STREET READING, PENNA.

▼ BREEZE—Answer by IEN-11335 if you write the maker ▼

Stable-Accurate

GROUND RESISTANCE TESTING with VIBROGROUND

- Push-Button Operation
- Direct-Reading
- Completely Self-Contained
- True readings, regardless of earth resistance and condition, stray frequencies, voltages or currents

YOU can be sure of safe, effective grounding of all types of electrical systems when you test with the light, easy-to-use Vibrogrounds. Simple operation and built to accurate smooth elements reading errors. No tinkering, cranking or outside power source is necessary and direct readings are independent of auxiliary probe resistance.

Full data on Vibrogrounds, including testing techniques and dimensions, is yours for the asking.

Write for BULLETIN 105

ASSOCIATED RESEARCH.

Precision Instruments Since 1926

3762 WEST BELMONT AVENUE • CHICAGO 18, ILLINOIS

▼ BREEZE—Answer by IEN-11336 if you write the maker ▼

Unit **"UTILITY" HOIST**

HYDRAULICALLY OPERATED FOR SHOP OR TRUCK

FAST...EASY...SAFE!

NOW reduce material handling time to a minimum with the fast UNIT UTILITY HOIST. One man handles heavy loads where several men were used before. Eliminates serious accidents caused by heavy hand lifting. Reduces labor costs, increases work output per day.

★ FROM SHOP TO TRUCK HOIST in seconds. Simply lift UNIT UTILITY HOIST from Carbon frame, place on truck or wall mounted on truck bed, work bench, loading dock or machine tool. Hoist swings 360° in well.

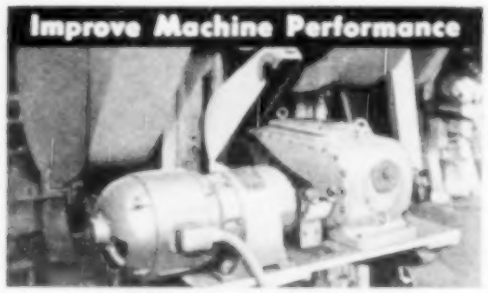
Write Dept. N for Complete Details

UNIT HYDRAULIC EQUIPMENT

Manufacturers of hydraulic cylinders for original equipment

UNIT MANUFACTURING CO
1229 HARMON PLACE • MINNEAPOLIS 3, MINNESOTA

IEN-11337



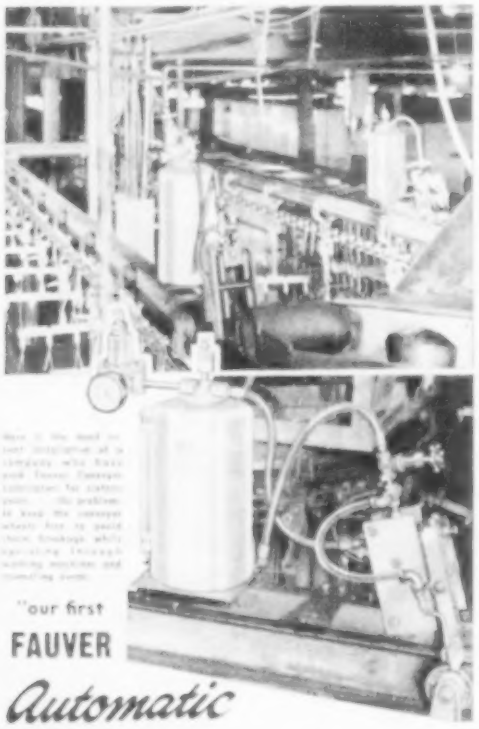
with LINK-BELT Fluid Drives

- They are precision engineered for stamping, efficient and economical power transmission.
- They allow motors to gain speed smoothly and rapidly, yet maximum torque is attained.
- They protect you at starting, stop, slow, reverse, impacts, or if overload on the drive of normal cutting horsepower.
- They protect motors against burn-outs and drives, machinery against shock loads and damaging vibrations.
- They are simple and compact with no bolts or external or adjustment necessary.
- Available in Fluid Torque, Electrical Drive, Electrical Coupling, Fluid Drive, Fluid Drive, Drive and Fluid Coupling Drive.

LINK-BELT COMPANY

SEND NOW for Book No. 2385

IEN-11338



"our first **FAUVER** *Automatic*

CONVEYOR LUBRICATOR was installed in 1934"...

"the conveyor is 3700 feet long and goes through enamel ovens so lubrication was a serious problem. Several types of lubricators were tried without success. We resorted to manual application of oil which was an expensive item. This was necessary because when a sufficient number of wheels froze, the chain would break, meaning a cessation of production . . . This Pneumatic Trolley Lubricator now keeps the wheels well oiled, the oil is applied in a mist so that it does not get on the enameled work and those former mechanical troubles are eliminated" . . . . there are also **FAUVER AUTOMATIC GREASE** Lubricators driven by contact with the trolley wheel; operates on wheels equipped with or without Zerk hydraulic fittings—*we specialize in conveyor lubrication problems—send for complete information.*

J. N. FAUVER Company, Inc.

49 W. Hancock DETROIT 1

IEN-11340

FILTERING . . Cartridge elements for lubricating, cooling and fuel oils

Source: HONAN-CRANE CORP
508-12 Indianapolis Ave., Lebanon, Ind.

Crandle [illegible]

Type MC [illegible]

Type MF [illegible]

Type S [illegible]

The bulk [illegible]

IEN-11341

FABRIC . . Vinyl plastic material for vehicle and furniture upholstery

Source: UNITED STATES RUBBER CO.
1230-32 Sixth Ave., New York 20, N. Y.

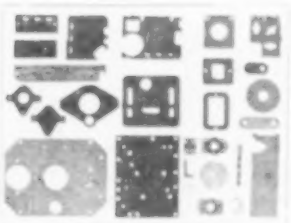
Five stock colors others to order

Elastic Naugahyde [illegible]

IEN-11342

STAMPINGS . . Flat, non-metallic to specification, 3 to 2,000 unit runs

Source: FEDERAL TOOL & MFG. CO.
3602 Alabama Ave., Minneapolis 16, Minn.



Stampings [illegible]

IEN-11343

ELECTRIC DUCT . . Steel trough mounts conductors under monorail track

Source: FORKER CORP
2033 Random Road, Cleveland 6, Ohio

Three-phase [illegible]

Duct sections are designed to place to lock ends at intervals. Splicing employs aluminum conductor bar couplings. The trolley collector is a single unit with three shoes. It floats independently of the trolley to maintain three-phase contact at a spring-maintained pressure of about 9 pounds. The new equipment can be applied to convert present hand-operated installations of the company's equipment.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

IEN-11344

"*Safety First*" PAYS OFF IN COMPOUND MELTING

Four or five watts of heat applied to one square inch of the Sta-Warm compound-filled melting tank's sidewalls and bottom is at least nine times more safe than 45 watts applied to one square inch of some less well designed compound melting equipment. This is practically any, your production. Find out Sta-Warm heating.

Low voltage per square inch means well distributed heat, not dangerous highly concentrated heat. You get safe, well-designed heat from Sta-Warm melting. Low voltage holds tank life longer, gives more years of trouble-free service. Low voltage means workers don't have to perspire. Non-melting operation means no down production. Finally, it means more contented melting crews.

Let Sta-Warm compound and soft water melters pay off for you. There's a size and type to fit your job. Inquire for product bulletin today.

Sta-Warm ELECTRIC CO.
360 N. CHESTNUT ST. • RAVENNA, OHIO

IEN-11345

The **GUARDIAN SERIES 405 D. C. RELAY**

The Guardian Series 405 Telephone Type Relay, used for communications, is an "all purpose" type especially suited to sensitive applications. Instantly responsive. Operates at high speed. Provides a time delay on attract or release when equipped with a copper slug on the coil. Armature hinges on pivot-type bearing to insure (1) long wear, (2) freedom from binding and (3) minimum side play. Standard weight of hermetically sealed Series 405 (DPDT) Relay [illegible]. Also available with special windings.

GUARDIAN ELECTRIC
1625M W. WALNUT STREET CHICAGO 12, ILLINOIS

IEN-11346

Allis-Chalmers [illegible] A.C. automatic line starters have double break silver to silver contacts that increase interrupting capacity and eliminate "dressing" contacts. Unhoodered straight line vertical action eliminates wearing parts. Design and construction are engineered for long life — easy inspection. The only tool needed for inspection of replaceable parts is a screw driver.

This kind of quality engineering and easy maintenance design goes into all Allis-Chalmers Starters. And there is an A.C. Starter for every motor need, regardless of application, horsepower or type. Send for bulletin 14B7132 which describes across-the-line starters for motors to 600 hp. at 550 volts, and bulletin 14B6410 describing 2300 to 5000 volt motor starters. A-3126

ALLIS-CHALMERS, 909A SO. 70 ST.
MILWAUKEE, WIS.

ALLIS-CHALMERS

▼ BRIEFITS—Identify by IEN-11347 if you write the maker ▼

REALOCK

IS TAMPER-PROOF

Realock Fence gives your plant property tamper-proof protection against trespassing, arson, theft and other costly hazards. That's because essential fittings are designed to prevent the removal of locks from the inside only.

Sturdily constructed of steel wire, heavily galvanized, Realock Fence is weather-resistant, extra durable and practically maintenance free. The Wickwire Division will not furnish integral arms as shown, but will substitute a malleable base with pressed steel arms. For complete details refer to Sweet's Catalog. For free estimate consult your classified telephone directory — or write direct.

REALOCK FENCE

WICKWIRE SPENCER STEEL DIVISION 360 Delaware Ave., Buffalo 2, N. Y.
THE COLORADO FUEL & IRON CORP. Continental Oil Bldg., Denver 2, Colo.
THE CALIFORNIA WIRE CLOTH CORP. 1001-19th Avenue, Oakland 6, California
BRANCHES & DISTRIBUTORS IN KEY CITIES EVERYWHERE

▼ BRIEFITS—Identify by IEN-11348 if you write the maker ▼

Announcing

Centr-A-Power

SWITCHBOARDS

custom-built...

pre-engineered...at money-saving prices

Have us send you Bulletin TEB-5 which tells you how Trumbull's new CENTR-A-POWER can give you highest quality switchboard materials and construction at lowest possible cost.

Assembled from standardized interchangeable units and troughs with a minimum of engineering, CENTR-A-POWER provides a compact and flexible "center" for all your switching.

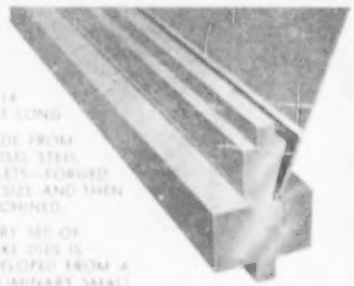
CENTR-A-POWER conveniences include greater capacity troughs—giving floor space; greater cross-section gutters—making wiring easier; quick-clip attachment of switch and breaker units—saving installation time.

Write now for Bulletin TEB-5 on CENTR-A-POWER. THE TRUMBULL ELECTRIC MANUFACTURING COMPANY, Plainville, Conn.

TRUMBULL (T) ELECTRIC

▼ BRIEFITS—Identify by IEN-11349 if you write the maker ▼

BRAKE DIES



- UP TO 14 FEET LONG
- MADE FROM CHISEL STEEL BILLETS—FORGED TO SIZE AND THEN MACHINED.
- EVERY SET OF BRAKE DIES IS DEVELOPED FROM A PRELIMINARY SMALL "TRY-OUT" SECTION—TO GET THE RIGHT SHAPE ON YOUR MATERIAL. THEN
- WE MAKE YOUR SET OF PERFECT BENDING DIES
- BY THE MAKERS OF THE FAMOUS SEMCO NOSELIP PRESS

Write for Letter Literature
Ask for Estimates

SEMCO

SERVICE MACHINE COMPANY
INCORPORATED

200 MILLER STREET ELIZABETH, N. J.

▼ BRIEFITS—Identify by IEN-11350 if you write the maker ▼

HOIST . . Drum type electric, 1/8 to 1 ton, standard lift to 18 feet

Source: HARNISCHFEGER CORP.
4402 W. National Ave., Milwaukee 14, Wis.

Limit switch to stop at the bottom of the hook range, grooved drum for the cable, an extra ground conductor on the feeder cable, reinforcing chain on the pendant swing cable are new features in the 1950 Cost of Zip-Lift hoists. The limit switch prevents the hoist from rewinding a fully paidout cable in reverse direction. The reinforcing chain protects the switch cable when the operator pulls a trolley-suspended hoist along its track by the cable. Three types of suspension include bolt and lock and trolley.

Four hoist sizes are between 250 and 2,000 lb. capacity, each with lift range of 18 feet. Hoist speed ranges from 40 fpm on the smallest to 20 fpm on the largest with normal speeds to specifications. The assembly can be ordered for operation on 110 to 550 volt ac with two-speed rating 2/1 and 3 ton size available for 220-volt dc. Weight varies from 110 to 290 pounds. Overall length is about 23 to 28 inches. Minimum distance between hooks in the hook suspended design is about 10 to 27 inches.

Bulletin H20, 20 pages, presents illustrations and text on each part of the hoist mechanism, includes installation procedure, contains specifications.

▼ BRIEFITS—Identify by IEN-11351 if you write the maker ▼

WEIGHING . . Recorder printer for use with company's dial scales

Source: HOWE SCALE CO.
1041 Strongs Ave., Rutland, Vt.

A pushbutton can be depressed on the housing of this new Howe-Eden printer attachment for the company's dial scales and weight will be printed when the scale comes to balance. The new attachment, connects w/w-111-w111, to the scale, can be placed in any location to 500 ft. from the scale. It is actuated by an electronic mechanism and amplifier which does not place any load on the scale. It is available for printing on tickets, forms, single and double-roll tapes. Teleprint is the trade name.

▼ BRIEFITS—Identify by IEN-11352 if you write the maker ▼

DRIVE . . Speed reducer and motor mount on welded steel base, 1 to 75 hp.

Source: LINK-BELT CO.
305-9 N. Michigan Ave., Chicago 1, Ill.

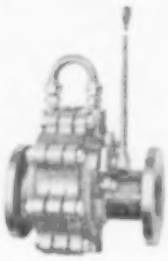
Motorear, to the right in the illustration, is a new compact drive assembly to fit the company's previously developed Speedmotor shown to the left. The two differ in that the Motorear combines a separate gear reducer with a separately connected standard motor on a welded-steel base while the Speedmotor is an integral assembly of flange motor and helical gear reducer on a cast base that is part of the reducer housing. The Motorear is available in complete assembly with the motor and base or can be supplied alone.

Twenty ratios are available for the Motorear, between 6.2 and 202 to 1. Rating is the equivalent of from 1 to 75 hp. with a 1,750-rpm motor in frame sizes No. 203 to No. 445. Rating of the highest ratio is 1 hp. at 16 lbs. to 75 hp. at 1,750-rpm. motor in frame sizes from No. 203 to No. 445. In each assembly there is an adjustable plate between the motor and the base to insure good alignment between the motor and reducer. Shafts are mounted in ball or roller bearings and are sealed in the housing. Mounting can be on floor, wall or ceiling.

Book No. 2217, 16 pages with internal and external views, includes technical tables on sizes for selection and contains complete construction details, dimensions and typical applications, includes tables of speed reductions, horsepower ratings and complete Dimension data. Book 100 is available upon request.

▼ BRIEFITS—Identify by IEN-11353 if you write the maker ▼

Valves That Keep VISCOUS MATERIALS Flowing Freely



When you handle coal tar products, asphalts, resins, waxes, molten sulfur, varnish and other materials which congeal at ordinary temperatures, you won't be troubled with clogged valves if you use EVERLASTING Steam Jacketed Valves.

The single jacket space of these valves surrounds the parts as well as the body — provides continuous heating surface and convey temperature to insure fluidity. Besides, the design of the valves is quick-acting, non-wedging, and self-grinding — and they have the straight-through flow and lasting tightness that have made EVERLASTING Valves famous for over 40 years. Write for complete information.

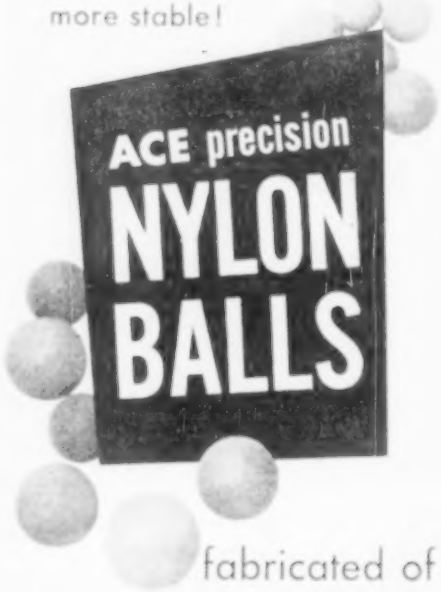
EVERLASTING VALVE CO., 49 Fisk Street, Jersey City 5, N. J.
Trade Mark "EVERLASTING" Reg. U. S. Pat. Off.

Everlasting Valves

for everlasting protection

▼ BRIEFITS—Identify by IEN-11354 if you write the maker ▼

brand new!
lighter!
tougher!
more stable!



fabricated of

DU PONT NYLON

FM 10001 to close tolerances

SIZES: 1/8" to 3/4"
TOLERANCES: ± .001

ACE is first in the world to give you mass-produced, close tolerance balls of DuPont Nylon FM 10001. These are tough at low temperatures — abrasion-resistant — have form stability at high temperatures — are light in weight — resistant to chemicals. Use them on valves, valve components, specialized antifriction bearings, detents and non-chattered checks and many other industrial applications.

LET OUR ENGINEERS ADVISE YOU

Complete facilities for fabricating plastic parts for all industries. Estimates submitted promptly upon receipt of your blueprints or specifications.

Write today for samples and bulletin

ACE PLASTIC COMPANY
Precision Plastic Fabricators

91-24 VAN WYCK BLVD. JAMAICA 1, N. Y.

▼ BREVITY—identify by IEN-11356 if you write the maker ▼

AMAZING, NEW, WATERPROOF,

GLASS-REINFORCED PAPER

GLAS-KRAFT

PROVIDES POSITIVE ALL-WEATHER PROTECTION

GLAS-KRAFT [illegible]

GLAS-KRAFT IS VERSATILE

Glas-Kraft is supplied to the U. S. Government in quantity. It meets JAN-P-125 specifications for barrier wrapping material, Types E-1, E-2, E-3.

- Wrapping & Packaging—Textiles, Machinery, Tires, Paper, Steel, Wire Stock, Cement, Chemicals, Furniture, etc.
- Storage—Cover for Outdoor storage of motors, vehicles, machinery, building supplies and equipment. As temporary all-weather tarpaulins.
- Packing & Shipping—Unitized loading of freight cars. As case liners and shrouds for export and domestic shipping.
- Building & Construction—As a vapor barrier in sidewall sheathing, protective floor covering, or over [illegible]
- Concrete Curing—For concrete floors, driveways, sidewalks and roads.

GET GLAS-KRAFT

[illegible] Glas-Kraft when you want an industrial paper to perform where others fail. Available in rolls up to 96 inches in width. Three grades. We also manufacture the revolutionary new GlasTape and Glas-Kraft sealing tape for the corrugated container industry.

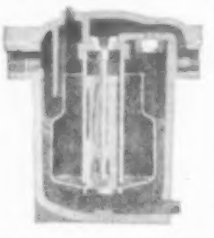
A [illegible] Product By

GLAS-KRAFT, Inc.

LONSDALE, RHODE ISLAND

Write today for sample swatches and prices.

▼ BREVITY—identify by IEN-11357 if you write the maker ▼



ILLINOIS STEAM TRAP

Simple — has only two moving parts

Valve Stem Travels Independent of Bucket—no other trap has this feature.

Instantaneous Valve Action—either wide open or tight that will not dribble on partial closing of valve under slow condensation rates.

Wire Drawing Impossible—valve has snap action.

Simple—moving parts are valve and bucket.

Cannot Air Bind—vents air continuously without loss of steam.

Cannot Blow Steam—always water sealed.

Surface Discharge—flushes out all grease and sludge.

Valve Seat—of special alloy, fully guaranteed.

Inspection Easy—Without disturbing piping.

Works Equally Well on All Fluids—compressed air lines, air separators, air aftercoolers.

Write for Bulletin 35

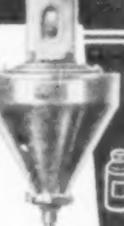
ILLINOIS ENGINEERING COMPANY

INCORPORATED 1900

RACINE AVENUE AT 21ST STREET • CHICAGO 8

▼ BREVITY—identify by IEN-11358 if you write the maker ▼

THE MATEER ELECTRIC FILLER HANDLES THEM ALL!



LIQUIDS · OILS · POWDERS · PASTES

COMBINED LIQUIDS AND SOLIDS

1/500 oz. to 2 Pounds

20 to 70 Per Minute

Up to 750° F

SAVE TIME AND MONEY WITH THE MATEER ALL ELECTRIC FILLING HEAD

Totally enclosed, manual or automatic. Accuracy as close as [illegible]. Synchronize this self contained filling head with existing production lines and processing systems.

Jacketed and electrically heated hoppers available for handling cold and hot materials up to 750° F.

Hot waxes, insulating compounds and asphalts handled without difficulty.

Send full information and samples of material to be tested. Write Dept. [illegible] for fully illustrated bulletin.

G. DIEHL MATEER & CO.

Lincoln Highway • Devon, Pa.

▼ BREVITY—identify by IEN-11359 if you write the maker ▼

PULVERIZING . . Ball type mill for wet or dry operation, 28 sizes

Source: HARDINGE CO.
236-42 Arch St., York, Pa.

Tricone [illegible]

Sizes [illegible]

The new design [illegible]

Bulletin AH-111. [illegible]

▼ BREVITY—identify by IEN-11360 if you write the maker ▼

FILING . . Sets of tool maker are packaged in plastic slide boxes

Source: GROBET FILE CO. OF AMERICA INC.
419-23 Canal St., New York 13, N. Y.

Circular No. RK presents details

New assemblies [illegible]

▼ BREVITY—identify by IEN-11361 if you write the maker ▼

STRIPPING . . Motor driven machine removes insulation from ends of wire

Source: RUSH WIRE STRIPPER DIVISION
102-6 S. State St., Syracuse 2, N. Y.

New machine [illegible]

▼ BREVITY—identify by IEN-11362 if you write the maker ▼

VENTILATING . . Power exhauster discharges bad air, fumes through roof

Source: SWARTWOUT CO.
18521 Euclid Ave., Cleveland 12, Ohio

Centrifugal blower [illegible]

Fourteen sizes [illegible]

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

▼ BREVITY—identify by IEN-11363 if you write the maker ▼

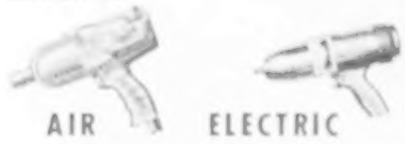
GET THE Thor STORY

ON PORTABLE POWER

IMPACT WRENCHES

Write for Catalog P-1

[illegible]



AIR ELECTRIC

Thor TOOLS

INDEPENDENT PNEUMATIC TOOL CO., AURORA, ILL.

▼ BREVITY—identify by IEN-11364 if you write the maker ▼

Heavy Duty YARD CRANES

by WAYNE CRANE

Pay off fast!

Converts easily to clamshell, dragline, magnet, shovel, trench hoe or pile driver.

Fast, one-man operation — works easily in tight spots.

Wayne Crane users are our "best salesmen." Sales and service in all industrial cities. Wire or write for specifications and prices. You'll like both.

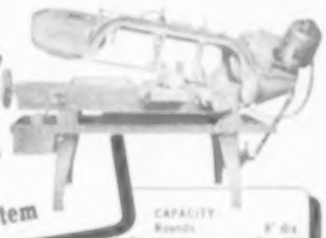
WAYNE CRANE DIVISION, AMERICAN STEEL DREDGE CO. INC.

FORT WAYNE 1, INDIANA

Manufacturers of Material Handling Equipment Since 1905

▼ BREVITY—identify by IEN-11365 if you write the maker ▼

Is your cut-off time too high?



. . . Try a WELLS No. 8 with Wet Cutting System

CAPACITY	
Rounds	8" dia.
Rectangular	8" x 16"
With special guides	5" x 24"
WEIGHT, Approx.	[illegible] lbs.

WHATEVER the job — rounds, squares, tubing or odd shapes — the Wells No. 8 Metal Cutting Band Saw will hold your cut-off time to a minimum. For production or general utility this saw has the speed, accuracy and versatility to pay for itself. The wet cutting system is an economical extra that makes possible higher cutting speeds and lower operating costs. See your Wells Saw dealer or write us for full details.

Wells

Products by Wells are Practical

METAL CUTTING BAND SAWS

WELLS MANUFACTURING CORPORATION

[illegible] MADISON ST., THREE RIVERS, MICH.

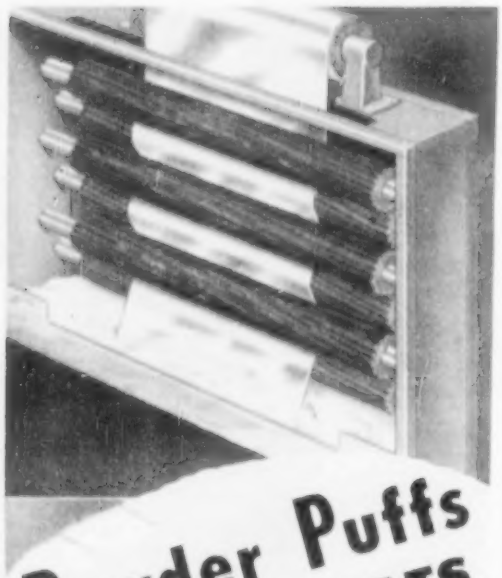
▼ DIRECTLY—Identify by IEN-11366 if you write the maker ▼

for Versatile Work with Hairline Precision

KLING BROS. *Engineering Works*

1326-1E N. Kostner Avenue • Chicago 51, Ill. U.S.A.

▼ DIRECTLY—Identify by IEN-11367 if you write the maker ▼



Powder Puffs FOR RAINCOATS

FULLERGRIPT BRUSHES
Provide Even Distribution of Talc on Coated Materials

In the manufacture of rubber raincoats a Vertical Brushing Machine is used to spread talc on the rubber material. This machine is equipped with two Fullergript brushes of a semi-spiral construction. Powder quality is improved because the Fullergript brushes provide a brushing action that distributes the talc evenly.

Fullergript's method of construction, actually brushes material to keep unbroken inside a metal backbone, provides extra long brush life. In addition, no time is lost dismantling the machine to make replacements. Since Fullergript brush strips are mounted on metal flanged sleeves only the strips are replaced. No spare brushes are needed to keep the machine in operation — a saving of several hundred dollars.

This is typical of production improvements made in many industries through the use of Fullergript power brushes. In every case Fullergript brings advantages of long life and simplified economical maintenance. For practical ideas about brushing, simply write us.

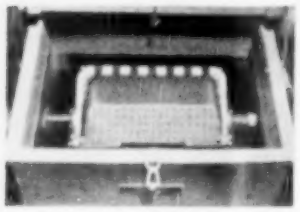
FULLERGRIPT THE FULLER BRUSH CO.

INDUSTRIAL DIVISION, 3583 MAIN STREET, HARTFORD 2, CONN.

▼ DIRECTLY—Identify by IEN-11369 if you write the maker ▼

TUMBLING . . Molded plastic barrel for wet ball burnishing and polishing

Source: LUPOMATIC INDUSTRIES
4508-12 Bullard Ave., New York 70, N. Y.



New assembly of wood finishing and tumbling barrel made of the company's molded Tenite I. This material has been added to the company's line of tumbling equipment to burnish and polish small metal parts.

The machine is design for a motor and transmission with chain connecting and a clutch. It is fitted with a screen to separate balls and work at the end of a year.

The barrel is convenient to the efforts of the non-metallic material to resist wear and to avoid dirty without warping or cracking. Economical operation for burnishing or polishing operations compares a very comparable with the surrounding balls.

▼ DIRECTLY—Identify by IEN-11370 if you write the maker ▼

FILTERING . . Porous bronze sheets to diffuse liquids, gases and sound

Source: WEL-MET CO.
108-12 Gougler Ave., Kent, Ohio

Company offers assistance in application

Porous bronze [illegible] of [illegible] per cent of [illegible] and 10 per cent of [illegible] for use as a filtering element. The sheets are made [illegible] in width to 14 in. [illegible] in. wide.

Porosity is to specification in a range from 10 to 45 per cent. [illegible] per cent. Tensile strength is [illegible] per square inch. [illegible] at [illegible] per cent, with differences [illegible] per square inch.

▼ DIRECTLY—Identify by IEN-11371 if you write the maker ▼

WOOD WORKING . . Portable router operates at 19,000 rpm., ¼ in. chuck

Source: DUMORE CO.
1251 14th St., Racine, Wis.

List price is $29.50 for [illegible] with the [illegible] motor. [illegible] and adjustable base. The shaft bushing are [illegible] and guide the [illegible] to which is the [illegible] the company is prepared to supply [illegible] and complete [illegible] a flexible shaft and [illegible] with a ¼ in. chuck. The office is [illegible] the [illegible] is a flexible-shaft [illegible] [illegible].

All Makers of Firms And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 10

▼ DIRECTLY—Identify by IEN-11372 if you write the maker ▼

▼ DIRECTLY—Identify by IEN-11373 if you write the maker ▼

▼ DIRECTLY—Identify by IEN-11374 if you write the maker ▼

DO YOU HAVE A FINISHING PROBLEM?

Automatic Handling.

Metal Preparation.

Drying.

Paint Application.

Paint Baking.

As Leading Designers and Manufacturers of Production, Handling Equipment and Automatic Paint Finishing Systems, Our Successful Know-How Is at Your Immediate Disposal.

THE SPRA-CON COMPANY

1402 N. WESTERN AVE. CHICAGO 22

▼ DIRECTLY—Identify by IEN-11375 if you write the maker ▼

Have you a similar use for this 1-piece fastener?

It's a Shelf Support. [illegible] or refrigerators, in plastic and metal. Leading appliance makers have achieved substantial installation savings through it.

It's a Cabinet Door Strike. [illegible] door strike assembly cost. Any head can be changed without affecting fastening principle.

It's a Blind Rivet. Of a remarkable fastener. It forms and locks with a 90° clockwise rotation. No mating parts such as nuts or mandrels.

It's a Lifter Knob or Dashboard Plug. Popular Spring-Lock models are molded around steel inserts, giving strength at point of high impact. Any change head can be molded on any [illegible].

What's Your Application?

Tell us how you can use Spring-Lock Fasteners in your products. We'll be glad to work out the details with you.

Send for more data and Free Sample pins today.

Simmons Fasteners

QUICK-LOCK • SPRING-LOCK
ROTO-LOCK

SIMMONS FASTENER CORP., 1758 North Broadway, Albany 1, N. Y.

▼ REQUEST—Identify by IEN-11376 if you write the maker ▼

Instrumentality

DON'T PLAY WITH FIRE... specify FLAME-OTROL

"You can't afford to have less than the best in combustion safety. Specify the new Wheelco 1300 Flame-otrol—a compact completely engineered package with all these advantages: Instantaneous protection, waiting period not subject to human error; shut down or repeat of "lighting off" cycle at operator's discretion; automatic check of all internal components to ensure safe "lighting-off"; selective and adjustable timing programs for ignition cycles, purging and prepurging; constant visual indication of burner system operation.

Write for Bulletin F2-2, Wheelco Instruments Company, 245 W. Harrison Street, Chicago, Illinois

wheelco electronic controls

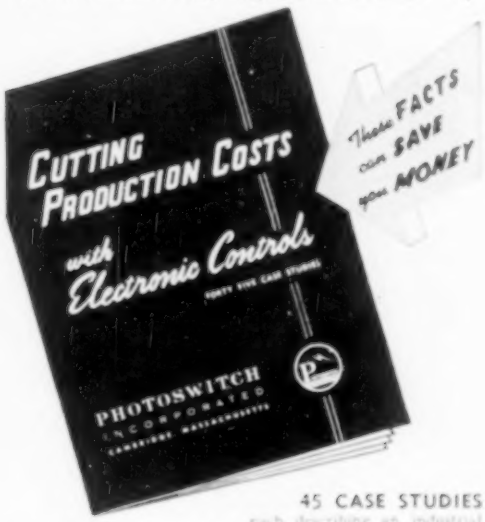
▼ REQUEST—Identify by IEN-11377 if you write the maker ▼

Going Up... Coming Down

REPUBLIC "SUPER GRIP" Rough Top Conveyor Belt

INDUSTRIAL RUBBER PRODUCTS BY REPUBLIC RUBBER DIVISION Lee Rubber & Tire Corporation YOUNGSTOWN, OHIO

▼ REQUEST—Identify by IEN-11378 if you write the maker ▼



45 CASE STUDIES ... each describing an industrial control problem which has been solved through the use of electronics. Not a catalog ... it shows HOW photoelectric and electronic controls count, guard, sort, weigh, measure, maintain liquid levels, program operating cycles and do countless other tasks with unfailing accuracy and amazing speed.

Write for your copy today.

PHOTOSWITCH INCORPORATED 75 Broadway, Cambridge 42, Massachusetts

▼ REQUEST—Identify by IEN-11379 if you write the maker ▼

PHOTOGRAPHING .. Camera for photomicrographic work, 4 by 5 in.

Source: AMERICAN OPTICAL CO. 49 Eggert Road, Buffalo 15, N. Y.

New camera [illegible] on a sturdy tubular pillar [illegible] A light-tight [illegible] provides swinging the camera away from the microscope [illegible] This position is [illegible] for focusing or [illegible] the focus of the microscope. A swinging plate made possible [illegible] of the camera back through a magnifier [illegible] as a [illegible] stage is not needed on the microscope.

A telescopic focusing [illegible] piece is equipped with a cross-hair [illegible]. The image can be focused to the moment of releasing the shutter. The 4 by 5 in. ground glass has diagonal measurement strips to [illegible] the field to assist in checking quality of the image.

▼ REQUEST—Identify by IEN-11380 if you write the maker ▼

CONNECTOR .. For ignition cables to spark plugs on gasoline engines

Source: BURNDY ENGINEERING CO. 105-9 Bruckner Blvd., New York 54, N. Y.

Hyspark [illegible] connector [illegible] for supplying [illegible] the spark plugs [illegible] spring [illegible] a solid [illegible] is made on the wire by a tool [illegible] supplied. With [illegible] the wire, strip the insulation [illegible] the connector [illegible] Burndy [illegible]

▼ REQUEST—Identify by IEN-11381 if you write the maker ▼

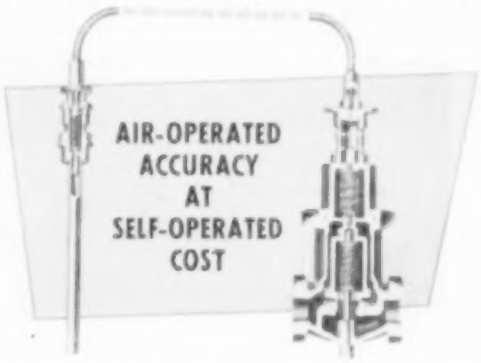
JACK .. Hand ratchet design for track work rates 15 ton, 5 in. lift

Source: DUFF-NORTON MFG. CO. 2707-11 Preble Ave., Pittsburgh 30, Pa.

Model 517-RA is [illegible] of the company's hand-operated ratchet type track jack in which the pawl-and-ratchet housing has been replaced by accessories. Operating parts remain of heat-treated carbon steel. A frame guard has been added to the clipping mechanism, and both the upper and lower pawls are spring actuated to prevent accidental tripping. The rise measures 2½ by 5 inches. The jack is 19½ in. [illegible]

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

▼ REQUEST—Identify by IEN-11382 if you write the maker ▼



Self-operated Farris Stacon Temperature Regulators* make possible unheard-of control accuracy—to within plus or minus 1 deg. How? Because liquid or the bulb flashes to vapor in power bellows. Steam does 95 per cent of the work — instantly. Balancing bellows eliminates spring counterpoise and packing glands — prevents response to variations in steam temperatures — provides free-floating valve disc.

Compact, trouble-free, dirt-proof, hermetically sealed Stacon Regulators operate consistently in the worst possible surroundings—require no maintenance. To learn more about the most sensitive, accurate, economical temperature regulator available, write for Stacon Bulletin 56-1000.

*Patented

Farris Stacon Corp. 412 COMMERCIAL AVE. PALISADES PARK, N. J.

▼ REQUEST—Identify by IEN-11383 if you write the maker ▼

Exclusive welded-stator construction gives increased ruggedness and electrical efficiency to the Delco Appliance RIGIDFRAME Motor

Let Delco Appliance engineers adapt this revolutionary motor for the appliances you manufacture!

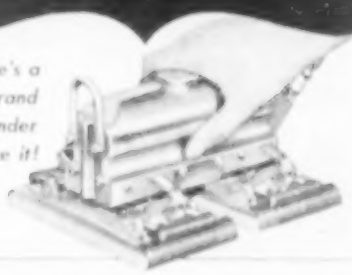
Rigidframe

DELCO APPLIANCE DIVISION, Dept. IEN-11 General Motors Corp., Rochester, N. Y.

▼ REQUEST—Identify by IEN-11384 if you write the maker ▼

Whatever your sanding problem...in wood, metal, plastic

...there's a Sundstrand Air Sander to solve it!



SUNDSTRAND SANDERS WITH STRAIGHT-LINE ACTION ARE WIDELY USED FOR

Plant production and maintenance work.
Wood finishing — building materials, furniture, cabinets, wood parts, etc.
Finishing metal parts — polishing dies.
Plastic and glass finishing.
Truck, car and machinery refinishing.
Grading purposes — rolls, bins, and other containers.

SUNDSTRAND

SUNDSTRAND AIR SANDERS

SUNDSTRAND MACHINE TOOL CO. ROCKFORD, ILLINOIS

▼ REQUEST—Identify by IEN-11385 if you write the maker ▼

Unbreakable "workhorses"

STRONGER, SWIFTER ForgeWelds

Brute strength and fluid smoothness—you get both in ForgeWelds. Day in and day out—under heaviest loads and relentless pounding—these extra-tough, castors keep rolling on. And how they roll! Hauling units equipped with ForgeWelds glide along on the finest ball bearing swivels and roller bearing wheels—speed up handling in any plant. What's more, once these "workhorses" are on your trucks, replacements will be rare indeed. ForgeWelds come in all types and sizes for all needs.

Makers of: Power Lift Trucks, Hand Lift Trucks, Lifters • Cranes, Dollies • Skids, Trucks & Trailers, Casters • Wheels

SERVICE CASTER & TRUCK CORP.

Executive Offices: Albion, Michigan. Plants at Albion, Michigan and Somerville 43, Mass. See your classified Telephone Directory for name of nearest Service Distributor

▼ GREEFF—Identify by IEN-11386 if you write the maker ▼

STURTEVANT DUSTLESS BLENDERS

Thoroughly Blend Substances into an Inseparable Mass

The "Air" in Mixing Action of the Sturtevant Dustless Blenders thoroughly mixes two or more substances into an inseparable whole . . . every part of which is the same analysis. Single receiving and discharging opening insures tight sealing during mixing process. "Open-door" accessibility permits thorough cleaning. The fast, accurate mixing operation increases output . . . cuts mixing costs. Mixing capacities from ¼ ton to 7½ tons per hour. Write

STURTEVANT MILL COMPANY
118-A CLAYTON STREET • BOSTON 22, MASS

▼ GREEFF—Identify by IEN-11387 if you write the maker ▼

Here's why TRU-LAY PUSH-PULL is a valuable aid in machine design

TRU-LAY Push-Pull is precision-made. Therefore it . . .

. . . is positive in action as a steel rod, yet flexible as wire rope

. . . transmits action over long or short lengths, with few or many bends

. . . will operate while flexing, with practically no lost motion

. . . is made in capacities up to 1000 pounds input

. . . is designed for long life—a machine part—not a flimsy gadget

MAIL THE COUPON BELOW

Obtain Patent Official Bulletin of information about TRU-LAY Push-Pull

ACCO

AUTOMOTIVE AND AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE

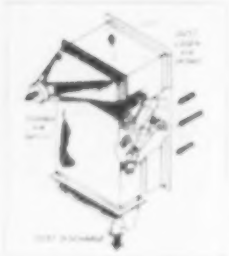
Please send me copy of descriptive bulletin DH-87 E-1

Name _____
Company Name _____
Address _____
City _____ Zone ____ State _____

▼ GREEFF—Identify by IEN-11389 if you write the maker ▼

DUST COLLECTING . . Multiple cyclone separates dust or mist from air stream

Source: DUSTEX CORP.
1756-60 Walden Ave., Buffalo 21, N. Y.



Two types are available in one design of the company's multipurpose cyclone: for power plants dust or to remove moisture from or mists from an air stream. One type uses elements with individual capacity for 50 cfm, at 4 in. of water pressure. It will maintain 100 per cent of dust removal efficiency on 12 micron particles in ducts of 2.34 specific gravity. The other employs elements rating 118 cfm each at 4 in. and is suited for removal of dusts where complete recovery or removal is not a major factor. As many elements as may be required are assembled in a metal housing for connection into a line and to return for the dust and clean air.

Construction can be specified in stainless steel, aluminum, carbon or other steel or other alloys to meet given requirements. Standard assemblies are made in 2 to 10-element units. In each element the dust-laden air passes through a helical passage with dust movement bearing outward due to centrifugal action until the dust reaches the small discharge end. The air beats inward to the central passage connecting to an outlet at the outer rear of each element.

Bulletin, "Controlled Dust at Flow", 6 pages, presents illustrations, capacity and efficiency curves, data on assembly, dimensions, comparison between two available types.

▼ GREEFF—Identify by IEN-11390 if you write the maker ▼

CRANE . . Mobile utility unit, 30 ft. boom, nominal rating 12½ ton

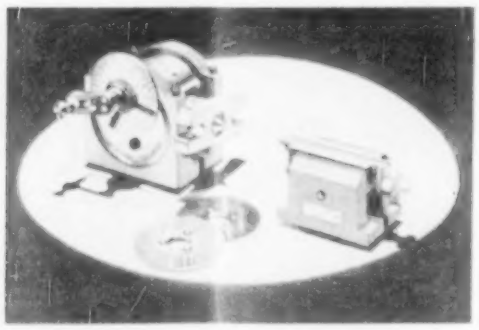
Source: WAYNE CRANE DIVISION
2511-13 Taylor St., Fort Wayne 1, Ind.

Model 40 supplements the company's previously developed line of heavy-duty cranes and wheel-mounted industrial yard cranes with a new wheel-mounted assembly. It has a 10-hp. gasoline engine for travel and a second 10-hp. gasoline engine for operation of the crane. The design permits conversion to clamshell, trench hoe, clamshell or drag line operation as required.

The crane swings at 0.4 rpm., has cable speed of 105 fpm and cable pull capacity at 11,000 pounds. Its wheelbase measures 156 inches. The carrier truck measures about 24 ft. in length by 8 ft. in width. Clearance is a little under 12 ft. from ground to the cab top. The cab is weatherproof construction in a design that permits more access to the deck machinery. The operating elements are replaceable as complete sub-assemblies. Shafts ride on anti-friction bearings. The rotating base is held by adjustable conical bearing rollers which revolve around a 28-in. replaceable ball bearing race.

All Makers of These And All Other Products Are Listed In THOMAS REGISTER . . Descriptions . . Ratings . . See Page 59

▼ GREEFF—Identify by IEN-11391 if you write the maker ▼



Now! MARVIN PRECISION DIVIDING HEAD

A New Dividing Head made to the exacting precision standards of Marvin Tool Makers. Designed for dividing right angles required in gear cutting, broach grinding, flutes, etc. Accuracy, speed, back clearance and operating shafts. The new center is supplied with 3 index plates, each plate having 4 sets of holes. It will index 3 degrees below horizontal and to 10 degrees past vertical and from 360 degrees. The complete dividing head weighs 15 lbs. Tail stock has two gears, which allow it to be horizontal position with the head. Tail stock is vertically adjustable for improved work. Head has 80:1 ratio. Tail stock travel is one inch. Spindle taper No. 2 Morse taper. Socket taper No. 2 Morse. Rugged head and tail stock. Head is carried on two heavy bearings.

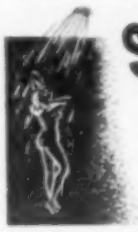
Price $99.50

Marvin precision motto: "It reduces production costs."

WRITE FOR COMPLETE INFORMATION

MARVIN MACHINE PRODUCTS, INC. SALES OFFICE 1 814 FORD BLDG. DETROIT 26, MICHIGAN

▼ GREEFF—Identify by IEN-11392 if you write the maker ▼



SAFETYMIX

EXTRA SHOWER SAFETY . . . at no extra cost

PROTECTS AGAINST SUDDEN SCALDS

. . . Safetymix, world's leading pressure-actuated non-scald shower valve gives safety in the shower. Safetymix automatically shuts down flow if either hot or cold water fails.

HOLDS SHOWER TEMPERATURE CONSTANT

. . . Even with excessive pressure fluctuations up to 85%, Safetymix still maintains constant discharge temperature.

LIFETIME SHOWER VALVE

. . . The most rugged shower control valve made. Only Safetymix has the patented Flow Control Spindle with but one moving part to control all valve functions. Built to last a lifetime.

GET FREEDOM FROM COSTLY MAINTENANCE

. . . Safetymix is designed with self-cleaning action to prevent clogging and save water. All parts accessible from the front. As easy to fix as a faucet.

100,000 Installations Can't Be Wrong. Used by U. S. Army, Navy, Merchant Marine, colleges, industrial plants, hotels, clubs, hospitals, apartments and homes.

Send for bulletin and prices.

SAFETYMIX — MADE BY THE MAKERS OF THE NEW SYMMONS TEMPERING-CONTROLLER

Symmons ENGINEERING COMPANY
791 TREMONT ST., BOSTON 18, MASS.

▼ GREEFF—Identify by IEN-11393 if you write the maker ▼

THIS SQUIRT LOOSENS-

FROZEN BOLTS.. BEARINGS

It's fast and accurate—shoots 15 feet one drop at a squirt. It's labeled Kroil—you can grab it quickly when a frozen bolt, screw or bearing starts to cost expensive time or threaten production.

That is when Kroil creeps into millionth inch spaces to soften rust, dissolve gum and supply lubrication to loosen the parts. It's fast and it's positive.

"Kano Kroil always opens up the tight fitting covers on fire extinguishers for us. It is truly a wonderful preparation. We have found such covers we could not force off with a blow of a hammer. Several minutes soakage of Kroil did the trick" says a service organization for fire extinguishers.

Kroilers are priced at $1.50 each and are well worth it. As an inducement to try Kroil we offer the combination of one Kroiler and one gallon of Kroil—[listed at $1.50] for $4.75 f. o. b. factory.

If you are not one of the 8,500 industrial plants already using Kroil, send for a gallon on the proposition that it will loosen the most stubborn frozen part or you get your money back.

KANO LABORATORIES 1071 Thompson Lane Nashville 11, Tenn.

▼ GREEFF—Identify by IEN-11394 if you write the maker ▼

the right answer

. . . to every gauge need IN THIS NEW CATALOG

The right answer—the Marsh answer — to every pressure gauge need is described in this new Marsh catalog which covers hundreds of variations of styles, types, mountings, ranges, functions. Remember that Marsh gauges, from the "standard" series line to the heavy-duty "Master-gauge" series have proved across the years to be the most economical you can buy for a given set of conditions. Let us prove this or write of gauges for your product.

MARSH INSTRUMENT CO.
Sales offices of
Jas. P. Marsh Corp., Dept. A, Skokie, Ill.

▼ REPRINT—Identify by IEN-11395 if you write the maker ▼

Because it's made of ramie, nature's rot-resistant fiber . . .

NEW NAVALON

Stands up where other packings fail!

This new Johns-Manville Navalon packing is outstanding in reciprocating service against fresh or salt water, brine, cold oil and many other liquids.

Navalon is rot-resistant . . . has the high tensile strength of brass in yarn . . . known for thousands of years for its long-lasting qualities. An exclusive Johns-Manville process of manufacture gives it unusual lubricating properties that further add to its long life in rugged service.

For further information, see your local packing distributor—or send for folder PK-52A. Address Johns-Manville, Box 290, New York 16, N. Y.

JM Johns-Manville PACKINGS & GASKETS

▼ REPRINT—Identify by IEN-11396 if you write the maker ▼

The COP Stops Trouble . . . before it starts

It will pay you to standardize on Sylvania's COP . . . the starter that cuts failing lamps out of circuit immediately, before they can start trouble. This manual-reset starter is your insurance against excessive starter wear, ballast burn-outs, and the many other money-consuming effects of burned out lamps.

Sylvania's COP is the only cut-out starter using two-wire bimetal contacts to the 40-watt size . . . a construction that means extra starting speed, extra reliability, extra satisfaction to your customers. And the COP consumes no power in maintaining an open circuit condition. The circuit remains open until the starter is manually reset.

These sturdy, long life COP starters are the result of years of Sylvania's experience and skill in fluorescent lighting. Send for full technical details today! Sylvania Electric Products, Inc., Advertising Dept. 1-3011, 1740 Broadway, New York 19, N. Y.

SYLVANIA ELECTRIC

▼ REPRINT—Identify by IEN-11397 if you write the maker ▼

ARROW

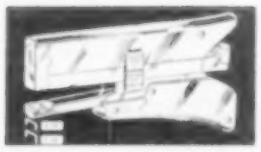
STAPLING MACHINES

SERVE INDUSTRY

T-32 GUN TACKER FOR TRIGGER-RATE-SPEED-TACKING

- Sturdy all steel construction with chrome finish
- Holds 150 staples
- Same machine takes 3/16", 1/4", 5/16" staple sizes. **Price $9.50**

P-22 HAND STAPLER



"Reaches into hard to get at places" where ordinary staplers are inaccessible.

Ideal for tagging, labeling, making boxes and many other uses.

- Sturdy all steel construction with chrome finish
- Holds 150 staples
- Same machine takes 1/4" and 5/16" staple sizes. **Price $6.00**

Designed for Heavy Duty Industrial Stapling

NATIONALLY ADVERTISED

Priced For Dealer Profits — Guaranteed Staple-Repeat Business

Write for complete information

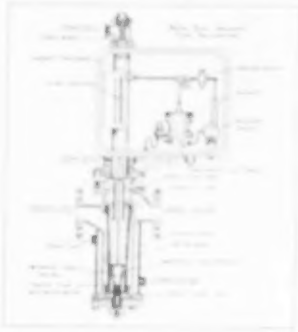
ARROW FASTENER CO., INC.

30-38 Meeker Street — Dept. IEN — Brooklyn, N. Y.

▼ REPRINT—Identify by IEN-11398 if you write the maker ▼

METER . . Rotameter assembly to safely measure flow of caustics

Source: FISCHER & PORTER CO.
40 County Line Road, Hatboro, Pa.



Nickel is the material of construction in the stainless-jacketed assembly, as it is also in the seat, plug, and guide parts, metering valve, float and indicator rods in the part illustrated. It is a recent addition to the company's Fluorocarb line to provide a unit that can measure the flow of acids, sodium hydroxide, bleach, and possibly to measure the flow of other materials in contact with this type of chemical.

No stuffing boxes are required since the float position is sensed without mechanical contact by a Magnetrol magnetic flowmeter. This will actuate pneumatic equipment to correct the float position and the changes in air pressure to actuate a remote pneumatic indicator or controller. Capacities in a range of sizes are from 5 to 200 gallons per minute.

▼ REPRINT—Identify by IEN-11399 if you write the maker ▼

SEALING . . Mastic compound for pipe lines handling gases, liquids

Source: HIGHSIDE CHEMICALS CO.
8-12 Colfax Ave., Clifton, N. J.

Packaged in ounce to 10 lb. containers

Leak Lock is a new plastic-like material packaged in collapsible tubes for application to threaded and gasketed joint surfaces in pipe lines. The tubes are for an indoor-outdoor film that flows with vibration and creates a smooth, non-porous seal. It will seal against leakage of gasoline, oils, refrigerants, halogen, propane, butane. It resists soft solvents and is not affected by spot opening a second connection.

▼ REPRINT—Identify by IEN-11400 if you write the maker ▼

DRYING . . Hot air blower for washrooms, dries hands and face

Source: CHICAGO HARDWARE FOUNDRY CO.
3002 Commonwealth Ave., North Chicago, Ill.

Ball-bearing motor driven blower is the heating of the newly-improved "Sani-Dry" electric dryer. The blower delivers air, over 50 cubic feet per minute, heating it to a maximum temperature of 150° F. at the blower. A switch, operated by the air stream, and so needs no timer. Starting is automatic when the blower goes. A control device limits the heated dryer when a set interval. Dryers are factory tested and sealed for life.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 10

▼ REPRINT—Identify by IEN-11401 if you write the maker ▼

SCHRAMM Pneumatractor

Pneumatractor with Snow Plow

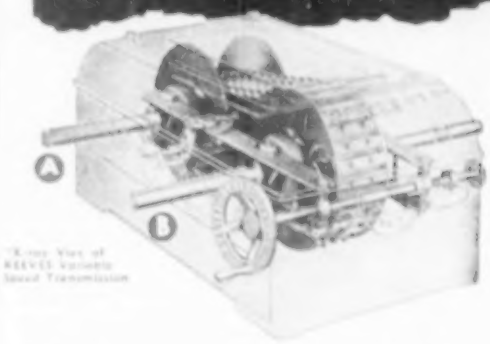
The SCHRAMM *Pneumatractor* is a self-propelled tractor compressor recommended for operating a wide variety of pneumatic tools and auxiliary equipment for plant maintenance. The Reversible Snow Plow includes a 7-foot blade adjustable for desired angle (up to 30°) right or left.

Write for Bulletin PRP-50

SCHRAMM INC. THE COMPRESSOR PEOPLE — WEST CHESTER PENNSYLVANIA

▼ REPRINT—Identify by IEN-11402 if you write the maker ▼

REEVES Provides the Right Speed for Every Operation



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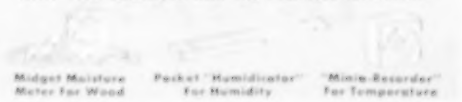

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IEN-11405

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ALL TYPES OF STAPLES APPLIED BY MACHINES

Trade Mark "Bostitch" Registered U. S. Patent Office and Foreign Countries

IEN-11408

PRINTING . . Belt feed machine prints and dry develops, width to 42 in.

Source: OZALID DIVISION
1641 Ansco Road, Johnson City, N. Y.

New design of the Streamliner positive printing dry-processing machine, previously described (IEN-11411-47), measures now from floor-to-top (level open) approximately 60 inches, for best line beauty in the finished product. It has a new type of sealing sleeve and improved Cinch in the drive. The machine will reproduce material that has been typed, printed, photographed on transparent sheets. It makes a positive copy on sensitized paper, cloth, foil, film or plastic. Line or images can be reproduced in a range of colors depending on the sheet chosen.

Printing speed is to 10 fpm, developing is at 5 fpm—on cut sheets or a continuous roll. Original and cut sheets are fed in at the front to be returned to separate trays at the front. The finished prints are stacked and the originals are just needed for reading again if required. The operator can reverse the movement if work is not started right. Overall dimensions are 62 by 36 by 51 inches. Operation is on 220-volt 60-cycle ac. Illumination is by a 2400-watt mercury lamp.

IEN-11409

CLAMP . . Air operated toggle unit for application on jigs and fixtures

Source: LAPEER MFG. CO.
3054-58 Davison Road, Lapeer, Mich.

Two new sizes in the company's line of air operated toggle clamps bring the total number to four with holding capacity in the case of the toggle varies from 80 to 1,200 pounds. Air pressure is maximum at 80 pounds. The smallest unit is single acting and employs a return spring. The other three are double acting. All lock in closed position. List price ranges from $12.50 to [illegible].

Base width is about 2¼ in. on the smallest clamp, 3¾ in. on the largest. Overall length is about 8⅛ to 20⅝ in. in closed position. A feature in the design is the channel shape of the pressure bar to permit sliding the threaded spindle along for more or less thrust clearance. Control can be at each clamp or on assembly or at a single point.

The cylinders employed in the clamps are available separately for users to apply to given operations. They range from 1 to 2⅝ in. bore, from 4⅛ to 10⅝ in. length, from 1⅛ to 4⅛ in. stroke. They are at 40 to $89.50. All have air pressure rating to 200 pounds.

All Makers of These and All Other Products Are Listed in THOMAS REGISTER . . . Descriptions . . . Ratings . . . See Page 80

IEN-11410

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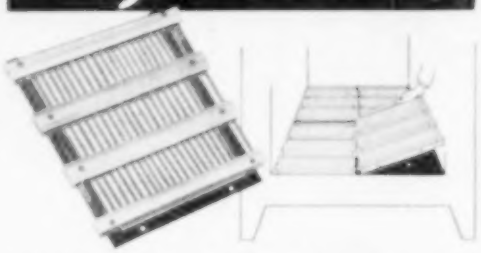

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IEN-11414

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*Can be furnished with motor drive

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IEN-11415

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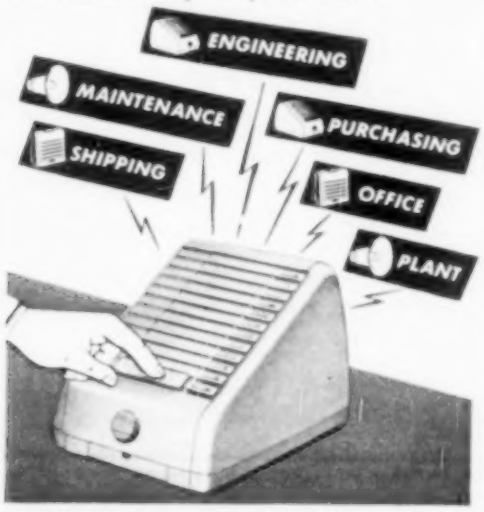

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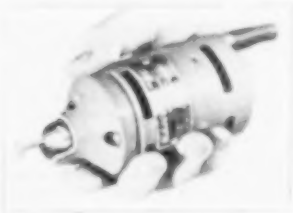
Name
Firm
Address

IEN-11417

GRINDING . . Portable electric tool for mounted wheels, cutters, 20,000 rpm.

Source: CHICAGO WHEEL & MFG. CO.
1103 W. Monroe St., Chicago 7, Ill.



Handee 82 is new design of the company's portable electric tool for operation on 110-volt ac or dc to perform grinding and cutting operations on metals and non-metallic materials. The mounted tool accepts a chuck taking interchangeable spring collets for ⅛, ¼ and ⅜ in. wheel or cutter shanks. A cord in back of the chuck holds cutting and sanding shoes. Tool weighs in 2 pounds. Cooling action permits continuous operation.

List price for 110-volt operation is about $20. The list is $26.50 when specified for 220 volts. A selection of forty-one matched attachments out of an available two hundred and a model carrying case adds $10. These attachments, the case and the tool together are known as the Handee Workshop.

IEN-11418

CRANKSHAFT . . Brazed assembly of screw machine parts and stampings

Source: TECHNICAL METAL PROCESSING INC.
5486 Lake Court, Cleveland 14, Ohio

Unit shown in the illustration is typical of design and production of machine parts to specifications to which the company has developed a process of parts manufacture with brazed assembly. The crankshaft is further development in the line to which a connected rod was previously described (IEN-2061 in Parts can be furnished if requested).

IEN-11419

COUNTERSINKING . . Cutters with teeth for chatter free operation

Source: SEVERANCE TOOL INDUSTRIES INC.
740 Iowa St., Saginaw, Mich.

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All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30

IEN-11420

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ENGRAVE on Plastic and Metal

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IEN-11422

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No Friction Adjustments Moving Parts Fragile Mechanisms

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IEN-11423

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NOVEMBER 1950 INDEX TO ALL PRODUCTS

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Next use this index to pick up page number references to additional sources on the subjects you have chosen. An asterisk (*) in the index after a number means editorial material.

Now take one subject at a time and refer to the pages you have noted. This time read the editorial descriptions and advertisements in detail. Then write the IEN numbers on which you want further information on your Reader Service Form to send to us, or write the manufacturer direct.

If you have trouble in finding the answer to your current problem through the subjects in this issue, let us know. We can name sources of supply with the help of our sixteen-year index of all products that have appeared in IEN. Any question we cannot answer will be published in our "I Wish I Had" column to invite suggestions.

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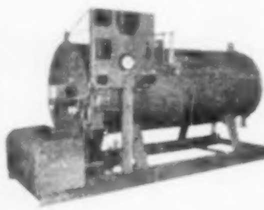

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Iris Shutter

Watch Dog of your Boiler Efficiency. Whether you use gas or oil, the Iris Shutter gives you absolute control of the air injected into your burner to provide proper flame control, from partial load to full load.

Steam-Pak Generators are built in capacities from 15 H.P. up, for low or high pressure steam or hot water, for light or heavy oil, combination gas and oil, or straight gas.

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YORK-SHIPLEY
INDUSTRIAL DIVISION
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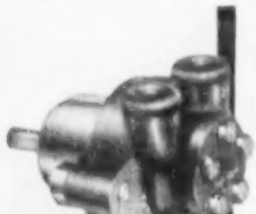

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IN PRESSURE LUBRICATION

ON HYDRAULIC MECHANISMS

FOR FUEL OR LIQUID TRANSFER

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A News Advertisement by Heli-Coil Corp.

THREAD PROTECTION . . .

Eliminates Screw Thread Troubles

Source: HELI-COIL® CORPORATION
47-151 Thirty-Fifth Street
Long Island City 1, New York

New Screw Thread Insert eliminates stripping, abrasion, wear, corrosion, galling and seizing. These inserts are durable precision-formed wire inserts of stainless steel or phosphor bronze for use as a permanent tough lining between thread and mating member. They are designed for use in iron and steel, aluminum, magnesium, die metal and other non-ferrous metals; and in wood, plastics and ceramics.

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Write for the Heli-Coil Bulletin No. 100 and prices.

▼ BREVITY—Identify by IEN-11429 if you write the maker ▼

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BREVITY—Identify by IEN-11433 if you write the maker

A New VALVAIR.. with HIGH TENSILE DIE-CAST BODY AT AN Attractive Price!

Two-way knob-operated Valvair air control valve with the new type die-cast body.

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AFFILIATE: SINCLAIR-COLLINS VALVE CO.

Rely Upon Valvair — 2-WAY — 3-WAY — 4-WAY

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Reliability in every splice

"The tape with the yellow core"
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Match it against your needs
- Provides full flow instantly
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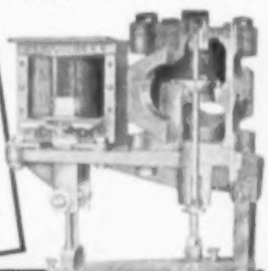

NEW Automatic Valve
Brings new advances — Serves new uses

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New bulletin shows wide scope of the Johnson Solenoid Valve; ask for copy

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Please send literature, and details of your 30-DAY TRIAL OFFER
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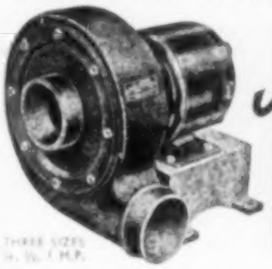

THREE SIZES ¼, ½, 1 H.P.

Sutton MOTOR DRIVEN PRESSURE BLOWERS

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY

CENTRIFUGAL TYPE designed to deliver an even, non-pulsating flow of air for blowing or exhausting. Universal as to rotation and discharge. Direction of discharge may be changed to any of eight 45 degree positions. • Housing, base, support, and impeller are constructed of cast aluminum alloy to reduce weight and increase strength. Straight wall construction reduces windage and increases efficiency. • Powered by standard 3450 r.p.m. direct-connected 60-cycle ball bearing motor in choice of open or totally enclosed types. Three sizes: ¼, ½ and 1 H.P. with capacities from 100 to 800 cu. ft. per min. at static pressures from ½" to 6".

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BREVITY—Identify by IEN-11436 if you write the maker

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Stearns MAGNETIC MANUFACTURING CO.

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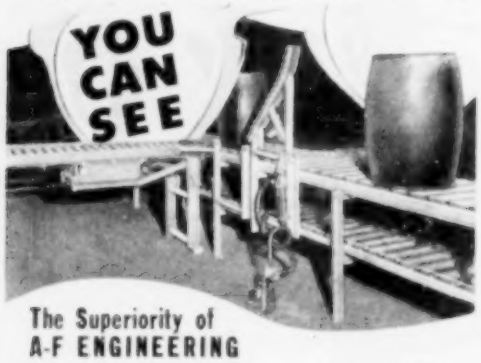

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SPOT WELDING ... HEMICAL SPLASH
GRINDING CHEM ... CHIPPING SPOT
CHEMICAL SPLASH ... SPOT WELDING
CHIPPING ... CHEMICAL
SPOT ... SPLASH
GRIN ... POT
CH ... G
C ... L
S ... I
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CH ... AL
SPO ... ASH
GRIND ... SPOT
CHEMICAL ... WELDING
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"I WISH I HAD"

This column concentrates upon reader requests for information on sources of supply for products or services or technical advice which we ourselves cannot supply, advises you of new patent-protected products for your possible manufacture, and available surplus of specialized products.

It is published to invite your suggestions and comments, which are forwarded immediately to the originator, just as we will be happy to publish similar problems for you.

BALING . . . "I wish we had a source from which we can purchase a used wrap metal press that will produce bundles approximately 12 by 14 by 24 inches. We are located in Ohio." IEN W-146

ENGINEER . . . "I wish we had contact with an organization that could use the services of our chief mechanical engineer, who has been manager of our engineering department for the past 7 years. We are closing this department and desire to place this man with a concern that can use a top automatic machine designer. He is a graduate of M. I. T. with a B. S. Degree. A record of his achievements is available. We are located in Louisville, Ky." IEN W-147

ENGINEER . . . "I wish I had contact with a manufacturer requiring the services of a plant engineer with about 10 years of experience in plant manufacturing process and metal working machinery. I am at present in Connecticut." IEN W-148

ENGINES . . . "I wish we had a buyer for 30 new Continental Model N-60 gasoline engines, 4 cylinders, 11.6 h.p. at 1800 rpm and 16.2 h.p. at 2200 rpm. They are in East Chicago, Ind." IEN W-149

MANAGEMENT . . . "I wish I had contact with American manufacturers holding interests in Australia or New Zealand or desiring to set up interests for whom I can make contact in those two countries on a trip I am planning. I am myself a New Zealander and know both countries well." IEN W-150

SLITTING . . . "I wish we had a buyer for a new Cameron slitter and rewinder for plastic or cloth. No. 28-2A, with 40 in. width capacity. Includes 20 slitters and a new motor. We hold the machine at $2000 in Boston." IEN W-151

CYLINDER . . . "I wish I had a customer for a 32 in. Longstaff air cylinder, 6 in. stroke. Hour sales, national. Sale in New York." IEN W-152

FASTENINGS . . . "I wish we had a buyer for a $1000 stock of standard button head rivets, bolts, nuts, waterlight bolts, clips. Ask for list. Pittsburgh." IEN W-153

TECHNICAL WRITER . . . "I wish we had contact with a top-flight writer able by reason of his personality and his technical knowledge to win the respect and cooperation of the scientists who head our petroleum research and application laboratory. His duties would be to prepare technical publicity and advertising material in which he would interpret the activities and findings of the scientists for general understanding. We suggest that you name your qualifications in writing and mail to us. We will forward them." IEN W-154

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If you do not find a postcard enclosed, watch for it next month as we are mailing them in rotation, state by state.

You can help us considerably in our classification work if you will also take time to check the information against the little boxes at the bottom of the card.

Thanks for your assistance!

BREVITY—Identify by IEN-11439 if you write the maker

LYON-Raymond
HYDRAULIC
Pallet Lift Trucks

Furnished in Several Models to Fit Your Needs

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See our demonstration of Electric Tiering and Hand Pallet Trucks at the Power Show, New York City, November 27th through December 2nd.

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Electric Power Trucks . . . Skid and Pallet Lifts
Hydraulic Elevating Equipment
Positioning . . . Sheet and Die Handling

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BREVITY—Identify by IEN-11440 if you write the maker

AUTOMATIC HYDROMETER
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Here's an invaluable aid to operating efficiency in paper, food and chemical plants! The Foxboro Liquid Density Recorder furnishes continuous, accurate records of density in flowing liquids. May be calibrated in specific gravity or any customary scale. Automatic Recording Controllers also are available.

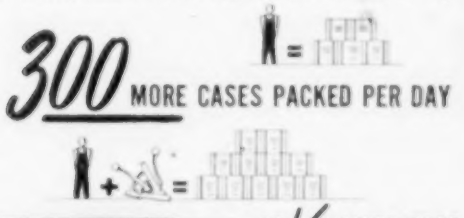
Both instruments are for permanent installation. Function without operator's attention. Accuracy is unaffected by foam. Open records easily read to small unit values.

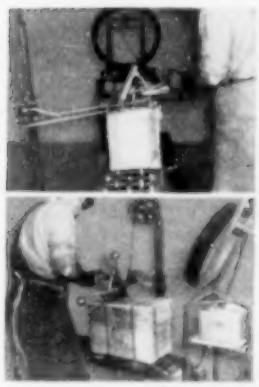
Write for detailed Bulletin A-264. The Foxboro Company, 190 Neponset Avenue, Foxboro, Mass., U. S. A. Branches in principal cities of U. S. and Canada.

FOXBORO Reg. U. S. Pat. Off.
DENSITY RECORDERS

BREVITY—Identify by IEN-11441 if you write the maker

300 MORE CASES PACKED PER DAY





—AT 1/3 LOWER COST

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Facts and figures like these from makers of hundreds of different products *prove* Stanley Steel Strapping System slashes shipping costs to the bone. Get details on the savings it can make for you now! The Stanley Works, Steel Strapping Div., 143 Lake St., New Britain, Conn.

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STANLEY Reg. U.S. Pat. Off.

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BREVITY—Identify by IEN-11442 if you write the maker

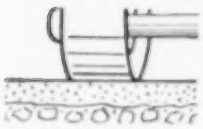
NEW FLOORS
In 24 Hours

BONDS PERFECTLY — NEVER COMES LOOSE

No Chipping required — Install directly over your old concrete, wood, brick or stone floors, walks or drives. Interior or Exterior.

HARD MASTIC

HEAVY DUTY • DUSTPROOF • WATERPROOF • FIRE-RESISTANT • RESTFUL • QUIET • SLIP PROOF • SANITARY



PERMAFLEX Floors will not rut under 3000 lbs. pressure per square inch.

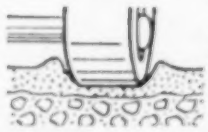
Many users apply "PERMAFLEX" over new concrete to prevent wearing away of the concrete under truck wheels and thus preserve structural strength.

The most severe trucking conditions in 1000 of the largest industrial plants show no destructive effect on "PERMAFLEX" after years of use.

AMAZING! UNBELIEVABLE! Until you try "PERMAFLEX"

Users include U. S. Steel, General Motors, Chrysler, Remington Arms, General Electric, Western Electric, Westinghouse, Bendix Aviation and leading railroads.

Test 100 square feet and be convinced. Write for literature and trial offer.



OLD MASTICS RUT and DENT under 300 lbs. per square inch.

Warehouse Stock, Sales and Service at:

Atlanta, Ga.—Main 4110 New York—Ri. 7-5476
Chicago—Blue Isl. 47208 Pittsburgh—Exp. 1-0244
Cleveland—Rlvd. 2-1201 St. Louis—Lucas 3700
Detroit— San Francisco—
Woodward 1-3946 Ger. 1-3196

INSTALL COMPLETE 15c per square foot

PERMAFLEX PRODUCTS COMPANY
1846 NORTH FRONT STREET, PHILA. 22, PA.